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ABSTRACT

A photographic projective occupational survey was employed as an occupational interest and career related data-gathering device. The major assumption underlying the development of the new instrument is that, when asked to respond to a visual stimulus, usually in the form of a design, drawing, or pictorial representation, the subject will respond to a series of instructions put to him in terms of his own perceptions of what he sees. In reality, the subject expresses his own needs, anxieties, fears, motives, goals, and aspirations in his responses. This projective survey was used to produce perceptions that could be useful in career planning situations. Thirty-one occupationally related photographs, representing seven major career fields and three occupational levels, were used. Subjects were asked to view each photograph and to relate what was going on and what led up to it, how the employee in the photograph felt about his job, and how it was going to turn out. Three random samples, each of 11th and 12th graders and adults, were selected as subjects for the study. A committee of professional judges compared the interpreted protocol career fields interests with the students' expressed and measured interests and with adults' present or intended career field choices. Statistical analyses revealed that high school protocol interests did not correspond with expressed and measured interests to a significant degree. However, in spite of these differences, a substantial number of successes were achieved. The analysis of adult results revealed an 80% agreement between protocol interpretations and present or intended employment. The judges felt that the survey responses provided important career related material that could be valuable in career decision making. (Author/PJC)

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A PROJECTIVE TECHNIQUE FOR CAREER COUNSELING

by

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Submitted in partial fulfillment of the
requirements for the Degree of Doctor of Education
in The University of Sarasota

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DEDICATION

This study is dedicated to my wife, Helen, who, during the dawn of our marriage, began a family and pursued her husband through an assortment of job relocations and the perils of advanced graduated study. Now, when one expects to enjoy the fruits of such labors, she has found herself in the midst of a new undertaking - a doctoral dissertation - with all the anxieties, missed opportunities for enjoyment and relaxation, the clutter of reference materials and papers about the house, and the strain of household expenses. It is with deep appreciation for her tolerance, patience, and understanding and with love that this study is dedicated.

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CHAPTER I

THE PROBLEM AND ITS COMPONENTS

Introduction

There appears to be little doubt among many guidance counselors that the need for a greater concentration of effort in the area of secondary school career counseling is being felt in the United States. Colleges and universities, sensing the inability of many of their students to arrive at sound career goals before entering college, are expanding their career counseling facilities. Apparently, feeling a need to face the issue of second career choice during the early years of college, the New England Association of College Admissions Counselors, the northeast affiliate of the National Association of College Admissions Counselors, has adopted as one of its 1976 regional discussion series, the subject of career counseling on the college level.

The matter of responsibility is heard frequently. Is it the role of the high school, the college, or both? Commenting on the question of responsibility for the career and college-major decision process, Venerable (1974) asks:

> Are parents responsible? Are peers responsible? If the answer were known, I'm sure much more effective counseling could be given by high school and college counselors who must struggle along with insufficient data which guides our youth to unsuitable occupations and maladjusted status as a college student. (p. 9).

Noting that approximately 50 percent of entering college students are not aware of their career goals, Venerable (1974, p. 10) concludes: "This choice of the course to be followed should precede the choice of college." A major concern in this process is--how do we go about it? What is the model? This need will be felt in the future and for some time to come. In 1909, Frank Parsons observed:

> In the choice of a vocation there are three broad factors: (1) a clear understanding of yourself, your aptitudes, abilities, interests, ambitions, resources, limitations and their cause; (2) a knowledge of the requirements and conditions of success, advantages and disadvantages, compensation, opportunities, and prospects in different lines of work; (3) true reasoning on the relations of these two groups of facts. (p. 5).

Frank Parsons' perceptive comments are as valid today as they were in 1909. In spite of the achievements in career counseling techniques and the scientific refinements in the tools of counseling during the past sixty-six years, the need for improved tools, techniques, and innovative models for career planning and occupational choice still exists. Without adequate tools and techniques, the where-with-all to accomplish the task will, indeed, be limited. Without refined career counseling models, no clear cut plans of action can be achieved.

Successful career counseling is often associated with the student's identification of his abilities, aptitudes, level of aspiration, and a clarification of his occupational values.. The well supplied career resource center has provided him with an abundance of occupational information. He has explored the vast supply of facts about careers and the opportunities open to him upon graduation from high school or college. But one facet of the planning process is nearly always at arms-length in the minds of the student and his parents--the need to make a sound career decision. What major will he specify on his college application? What will his answer be when an employment manager asks, "What kind of job are you looking for?" Hopefully, the counseling process will have revealed the student's interests and occupational preferences--the kind of work that might bring job satisfaction, perhaps a feeling of accomplishment, adequate monetary returns, and, most of all, a desire to continue his affiliation with his chosen job activity. It is this researcher's opinion that the clarification and identification of occupational interests and preferences are the most important outcomes of the total career planning experience.

Frank Parsons was obviously alert to the importance of interests in the selection of a vocation. Yet, it was nearly twenty years later when E.K. Strong (1943, pp. 3-45) began to give a formal measurement base to interest assessment. First published in 1927 and later revised in 1938, the Strong Vocational Interest Blank For Men was based on research that differentiated the likes and dislikes of men in other occupations. Approximately ten years later, G. Fredric Kuder (1946) published the Kuder Preference Record. The 1948 revision has been used widely as a means of identifying interest preferences in nine occupational areas. Hence, by the end of World War II, the patterns for occupational interest assessment had been firmly established.

This study takes one further step in the search for an additional way of identifying those significant modes of thought of a counselee which, when brought into sharper focus and acted upon, could pave the way for more realistic and confident career devisions.

Background Information to the Problem

Even though a wide variety of sophisticated paper and pencil occupational interest inventories has been developed, some counselors are concerned over the sufficiency of interest data available to assist students in their occupational planning. Counselors frequently encounter interest profiles showing little or no separation between occupational categories or where none of the scores are strong enough to provide a basis for discussing career options. Some doubts emanate from differences of opinion of a conceptual nature regarding the measurement of career preferences and some from the results following counseling, i.e., the decisions students make following graduation from high school or the occupational opportunities students seek upon graduating from college. For example, some of the questions that arise from a conceptual point of view are:

1. Has the student of high school age had sufficient acquaintance with the world of work to know he would rather be an accountant than an insurance salesman? When his responses on a paper and pencil inventory are compared with people in general, can we say his preferences are sufficiently strong to warrant considering accounting as a career? The Kuder Preference Record, sometimes referred to as a homogeneous type of interest inventory, requires the student to differentiate within triads of occupations and to indicate the one he likes most and the one he likes the least. If his total score for a given occupational field falls near or above the 75th percentile, compared with adults in general, he

is considered to have significantly strong interests in that occupational activity area. Since occupational areas are not mutually exclusive, the skilled counselor looks for clusters of strong areas, combinations of interests that can be related to a wider assortment of occupational pursuits. The counseling rationale seems to be that the student should continue his exploration of occupational possibilities focusing on the strong measured preference areas.

2. Has the student had sufficient experience to respond to a series of like-dislike situations (likes and dislikes not necessarily of an occupational nature) and, if his answers are like those of accountants, can we say he should consider accounting as a career? The Strong Vocational Interest Blank is an example of the normative type of interest inventory since it attempts to arrive at the norm of interests of people in various occupational groups. Strong's research (1943, pp. 107-132) indicates that there is substantial differentiation of interests between occupational groups. The rationale here is that students who possess interests like those of accountants might be happy in, satisfied with, and enjoy the accountant's line of work. This field represents an option to be considered in planning an occupational career.

3. Has the student matured sufficiently in terms of emotional development? Has he acquired a stable set of values to be able to make sound career judgments possible? Research suggests that interests, like many aspects of human development, are in a state of change until about the age of 18 and then begin to level off until about the age of 25.

(Super, 1949, p. 390-395). Yet, we expect students to choose college majors at 17 and 18 years of age.

From the standpoint of decisions actually made by students after some lapse of time or after completing some specific educational sequence, the following observations are frequently encountered:

1. The Director of Placement at a leading eastern university observed that the majority of students graduating from his school are unsure of themselves and are unable to identify their career goals. Inability to make career decisions after graduating from high school notwithstanding, it would seem that after four years of college some general statement in terms of the overall occupational field would be forthcoming. (Daring, 1975).

2. An unpublished research at a mid-western girl's college indicates that, on the average, the student makes two changes in her college major during her freshman year. (Mudie, 1975).

3. A leading employment search organization located in Hartford, Connecticut and catering to a broad range of job seekers from the skilled to the Ph.D. levels, is of the opinion that nearly 90 percent of its clients are not sure what kind of employment to seek. When questioned about the reasons for having majored in a particular academic area, they have difficulty in expressing sound reasons for their decision. (Gay, 1975).

4. Gottlieb (1975), in a two year longitudinal study supported by the U.S. Department of Labor, investigated, among other things,

the "degree of fit between career expectations and actual career-based experience" among 1800 graduating college seniors. He concluded with results similar to the above:

> College personnel seem to assume that someone has, in fact, provided students with the information needed to make reasonable, career related decisions. The data suggest that such is rarely the case; indeed, many students have only a vague understanding of the content and structure of the careers for which they are headed. (p. 123).

5. The majority of high school seniors in an affluent community located in the central part of Connecticut, just begin to think about their future--where they are going and what they are going to be--as they approach their final lap of high school experience. This is in spite of an elaborate program of career planning and career exploration which begins in the elementary grades. (Grzybala, 1976).

Cowley, Hoppock, and Williamson (1939, All) and Williamson (1939, p. 428) found similar conditions existing in 1939. To say that today's youth is experiencing a greater variety of options, that life is more complicated and, therefore, complicates the career decision making process, may be difficult to defend. We have obviously faced this problem before. Poor occupational goal decisions or no decision at all are very likely a function of many influences and not only a lack of well defined interests. Some of these could be lack of harmony between student and parents' opinions, lack of desire or motivation to give serious thought to the future, a value system of uncertain dimensions, the absence of needs, and, possibly, lack of rapport between the student and his counselor.

Counselors, then, are concerned not only with the model for career planning, but also with the acquisition of needed information that can be blended into the process. It is the researcher's opinion that interests and well defined occupational preferences are final products, the end result of growth, experience, analysis, and synthesis. The prime concern of this study was to investigate the possibility of developing a new vehicle that could increase our effectiveness in exploring and detecting significant interest information.

Statement of the Problem

Major Problem: The purpose of this investigation was to answer the question: What are the design constructs of a new occupational preference data gathering instrument for career planning purposes which incorporates occupation-oriented photographs?

The following subproblems were a natural outgrowth of the deliberations associated with the design, construction, administration, and use of the new instrument:

Subproblem: What are the anticipated data yields of the new instrument which differentiates it from paper and pencil inventories?

Subproblem: What are the selection criteria for career fields and occupations to be incorporated in the new instrument?

Subproblem: What photographic features are recommended for the instrument?

Subproblem: What are the lay-out considerations for preparing the instrument?

Subproblem: What typographical features are recommended for the instrument?

Subproblem: What are the considerations for preparing the instructions to the user of the instrument?

Subproblem: What factors represent probable constraints in the use of the new instrument?

Purpose of the Study

The purpose of this study was to create a pictorial device that could be used as a career preference data gathering tool and to ascertain its usefulness in career planning situations.

Need and Significance of the Study

This study is an outgrowth of a pilot project conducted by the researcher in 1949 while completing a survey course in projective techniques. One of the requirements of the course was to explore the possibility of developing a projective device and to present the rationale, administer the test, and present the findings and conclusions. At that time, Murray's Thematic Apperception Test (1943) had gained considerable prominence as a projective device for studying human behavior. The projective approach appeared to be an attractive possibility for exploring career preferences and expressed related material that might be used in career counseling. This was also the period when client-centered counselors and therapists were strongly advocating looking beyond normative test scores toward more idiographic, holistic material--if tests of any sort were to be used. (Rogers, 1942, pp. 249-252; Snygg & Combs, 1949, p. 84).

A photographic thematic career exploration survey was developed consisting of nine occupationally oriented photographs closely resembling the occupational categories of the Kuder Preference Record. Two non-occupational photographs were included, one a solitary figure in somewhat of a thoughtful, pensive mood and the other a blank card. The survey was administered to 10 veterans of World War II who had appeared for testing at the Utica-Syracuse University Veterans Testing and Counseling Center where the researcher was serving as co-coordinator and head counselor. The experimental device was administered along with a complete battery of interest, personality, intelligence, aptitude, and achievement tests. The photographs were presented to each client with an explanation that the people in the photographs were working at their chosen careers. The client was asked to relate a story describing what was being done, how the worker happened to choose that career, and, finally, how it was going to turn out. Would the worker remain with his present position or would he attempt to seek other employment? The non-occupational photograph was presented with the thought that the person is deeply concerned about his occupational future. What are his thoughts, do you have any idea what he will do? The blank card was presented with a request to "see" a person engaged in his job and to relate what the person is doing, and, otherwise, to supply the information requested of the actual photographs. If it appeared appropriate, perhaps to enrich the material, the examiner would give a non-directive lead or invited the client to clarify or expand on his story.

The client's comments were recorded verbatum by a stenographer who sat behindand slightly to one side of the client. Each protocol was clinically analyzed for significant career related material. The clinical summaries were compared with measured interests (Kuder or Strong) and stated occupational plans.

The pilot study lacked the precision of controlled research. However, the results were encouraging in that six of the ten protocols showed considerable agreement with measured occupational field categories. The material also substantiated stated occupational goals. Some of the comments had drive, need, and goal content, including indecision, doubt, reference to level of aspiration, monetary goals, frustration, and other emerging career clues. Such information was new material not found in the commonly used paper and pencil interest inventories. These new ingredients seemed to suggest the advisability to go behind the scenes of objective test data. Not doing so may be one of the reasons why some counselors seem to reach an impass in career counseling with some of their students. If the objective data is notin agreement with the student's self-concept or not readily assimilated, the opportunity for development of new self-perceptions and, consequently, more realistic and satisfying career goal changes can be seriously hampered. Although not intended as a text for modeling the career planning process, Snygg and Combs' volume (1949) is replete with implications for establishing a frame of reference for vocational counseling while embracing a phenomenological point of view: personal frame of reference, fluidity of the phenomenal field, the role of needs, effectiveness of predictions of the student's behavior, self-concept, and frequent references to behavior change. In 1951, Super suggested considering the client's self-concept as he deliberates his vocational future. (pp. 88-92). Later he pioneered the exploration of work values in assessing vocational interests. (Super, 1962, pp. 234-239; and in Zyrowski, 1973, pp. 189-205). Carkhuff's, (1973) and Friel and Carkhuff's, (1974) planning model relies quite heavily on ideographic and wholistic material.

A pictorial projective career planning instrument composed of occupationally related photographs may very well stimulate thought processes in a way that occupational interests could be indicated with increased relevance for career planning. The data will go beyond summaries of like-dislike answers and possibly include references to other occupationally related information. Data of a subliminal nature may be brought forth which could be used to identify pre-emerging interest material or to supply clues for understanding the reasons why the student is unable to bring his preferences into sharper focus. It appears to the researcher that, once supplied with such information, the alert counselor would find it difficult to resist dealing with it--to assist the student in gaining a more thorough understanding of his self-concept and to be able to explore a broader assortment of career options with the student.

Finally, the new instrument will be used to substantiate preferences revealed on paper and pencil interest inventories as well as stated interests. Students with a reading difficulty may find the new instrument more tolerable and interesting than paper and pencil interest inventories.

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CHAPTER II

ASSUMPTIONS, DEFINITIONS, HYPOTHESES, AND DELIMITATIONS

It is the researcher's opinion that the theoretical base for the use of projectives rests on one primary assumption. Stein (1948, p. viii) expressed it as "people reveal their personalities and problems in talking about others and in structuring unstructured situations." Although Stein did not relate this assumption to a theoretical base or as the primary assumption, he did refer to it in his Manual For The Thematic Apperception Test, once as an hypothesis and again as an assumption. (Stein, 1948, p. viii, p. 23). This assumption also holds for the purposes of this study, but it requires refinement and restatement to conform to the proposition that also revealed are occupationally related drives, motives, values, goals, and interests that may be significant in occupational decision making. It is suggested it be stated--people reveal their drives, motives, values, goals, and interests in talking about others and in restructuring structured occupationally related situations as depicted in photographs of people engaged in working. As indicated earlier, this is the primary need for the new instrument and its ultimate test of viability and usefulness.

Assumption

It is assumed that the student, in responding to a series of occupationally oriented and structured photographs will unknowingly, yet in reality, be perceiving himself in the role portrayed in the photo.

Definitions

Projective Instrument (Sometimes referred to as a test or survey) A test composed of inkblots, symbols, drawings, or photographs used to elicit information about an individual's personality structure. The individual is asked to talk about what he sees in the stimulus figures. It is assumed the subject projects himself into the situations he views and, in reality, talks about himself.

Protocol - The complete record of a subject's responses to the projective test, including verbatum statements, summaries of the subject's replys, and observations of the way the subject responded to the test situation (hesitations, anxieties, shock, and the manner in which the stimulus material was handled).

Clinical Interpretation and Judgments - Clinical interpretation refers to the in-depth analysis of the subject's responses followed by a consideration of their meaning in understanding the subject's personality. In this study clinical interpretation refers to this total process, while clinical judgments refer to the specific outcomes resulting from this process.

Pictorial Interest Survey, the New Instrument, the Test, the Survey, Photographic Projective Occupational Survey - These terms refer to the new device, the subject of this study; their meaning is one and the same.

Stated, Expressed, and Estimated Occupational Interests - These terms refer to a client's opinion of what his occupational interests are. Their meaning is one and the same.

Occupational Field, Career Field, Career Cluster, Field Category These terms are used interchangeably and refer to a primary breakdown of the world-of-work. In this study such a breakdown will consist of: Technology, Business, Human Services, Creative, Medical, Trades, and Outdoor.

Interest Inventory - Frequently referred to as a paper and pencil interest inventory. It is a measuring device intended to assess a subject's preferences for certain vocational and non-vocational activities. The activities are usually in verbal form or depicted in drawings of people at work. The results are counted and compared with a designated norm group.

Occupation, Vocation, Job - No hard and fast distinction will be made between occupation and vocation. Both refer to a subject's primary, career work pursuit. Job refers to a specific work activity within a particular occupational or vocational field.

Hypotheses

Hypothesis 1 - There is no significant difference in measures (ratings) between the stated and/or measured (Kuder) career field choices of a random group of eleventh graders and the judgments of professional raters regarding occupational field category choices as inferred from student responses to the projective occupational survey.

Hypothesis 2 - There is no significant difference in measures (ratings) between the stated and/or measured (Kuder) career field choices of a random group of twelfth graders and the judgments of professional raters regarding occupational field category choices as inferred from student responses to the projective occupational survey.

Hypothesis 3 - There is no significant difference in measures (ratings) between the career fields in which random groups of adults are actually employed or anticipate employment and the judgments of professional raters as to which career fields these may be as inferred from responses to the projective occupational survey.

Hypothesis 4 - The responses to the projective occupational survey will reveal concerns of the subject such as values, needs, motives, attitudes toward work, and goals that will be useful information in assisting the subject in career planning.

These hypotheses serve as one basis for ascertaining whether or not the pictorial occupational survey has discriminatory capabilities. An agreement among judges that the protocol results and stated or measured interests or employment experience are in harmony will be considered a "success" in the evaluation of the results. However, a lack of agreement among judges that such is the case will not be considered a "failure." The nature of the new instrument is such that lack of congruence between protocol results and stated or measured interests or employment experience may indicate a conflict between a subject's perceptions of reality regarding the employment world and his aspirations. The instrument, then, will have served to produce substantive material for continuation of counseling and the consideration of other career options.

Delimitations

1. Data gathering was confined to one-to-one situations.

2. Data for the study was obtained from two different high school populations--one a sample of 30 12th graders from West Hartford, Connecticut and the other, a sample of 19 11th graders from Springfield, Illinois. A sample of 40 adults was also studied.

3. The determination of the projective occupational survey's validity was confined to "content" validity as indicated by the appropriateness of the photographs chosen for the instrument by professional judges.

4. A sub-sample of 5 West Hartford, Connecticut students and a sub-sample of 5 adults were also studied to ascertain the amount of correspondence in career field identification between two different groups of judges. This constitutes one pilot study of the instrument's reliability.

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CHAPTER III

REVIEW OF THE RELATED LITERATURE

This review of the related literature is presented in four sections emphasizing (a) the role of values, motives, self-concept, and aspirations in career choice and career success and job satisfaction, (b) the development and use of projective tests as a means of describing personality, (c) the use of projective tests in identifying personality characteristics thought to be associated with occupational success and job satisfaction, and (d) the development and use of projective tests in career planning, with particular emphasis on pictorial and photographic projective material. The following studies and references were selected to provide a background against which the conceptual and structural design ingredients of the projective occupational survey can have substance and meaning.

The Role of Values, Motives, Self-Concept, and Aspirations in Career Choice

Career counselors are likely to agree that the choice of an occupational career presents a series of perplexing problems to many high school graduates and college students and adults contemplating a career change. Something must have been out of focus for the high school honor student who chose chemistry as a college major only to find he could not see himself in a white coat and surrounded by test tubes the rest of his life. A change to a finance and banking major has led to a successful career in real estate financing with one of the country's leading banks. Another of the researcher's counselees appeared to be heading for a successful career in the theater. He had an excellent voice and took the lead in many high school and local musical productions. After one semester he announced he was changing his career goal to male nursing. Such changes are dramatic but certainly not uncommon in the high school setting. One is apt to attribute career choice errors to vague perceptions of personal values, personality structure, and interests. The problem is further complicated by the fact that many young people, living within the protective confines of a home where their needs are provided by their parents, are suddenly expected to extract a career decision from among a wide assortment of inaccurate perceptions of the outside world. Berger (1967), in discussing parental and student anxiety about career decisions states; "Most such students have not yet learned enough about themselves or about occupations to be able to make a definite, satisfactory vocational choice." Flanagan, Davis, Dailey, Shaycoft, Orr, Goldberg, & Neyman (1964) found that many high school students are uncertain about their choice of career field, level, abilities, and aptitudes. It is the researcher's opinion that the career counseling process must undertake, at the earliest possible time, the assessment of job satisfaction correlates present in the emerging personality of high school youth. The new projective occupational survey is intended to assist this assessment. What to look for in a student's responses to a set of occupationally oriented photographs is suggested by a multitude of research dealing with career choice and personality characteristics.

Elton and Rose (1967) tested the hypothesis that "personality characteristics will differentiate students who leave engineering from students who remain in engineering." Although there were differences depending on whether the student who changed majors chose arts and science or commerce, the engineering student who remained was found to be "chiefly interested in practical matters: to be 'dependent upon authority," inflexible, intolerant, conventional, religious, and dependent on rules and rituals. Whitney (1969) in a discussion of the usefulness of expressed vocational choices "as a bench mark for measuring the usefulness of other predictors," raises the question regarding an "initial choice of engineering and later employment as truck driver as opposed to initial choice of engineer and later employment as a chemist." He believes "that some classification device" is required to record such descrepancies. Concluding his comments regarding expressed vocational choice, Whitney suggests that expressed vocational choice can have substantial validity when compared with later major field choice, ranging into the 80% agreement level. He "argues for greater consideration to be given to the vocational choices of young people and for more discriminating use of interest inventories."

Can vocational identity undergo change or adjustment during the employment period? Waterman and Waterman (1976) "in an attempt to assess the nature of vocational identity after extensive work experience" found that 13% of the sample had "gone through an occupational identity crisis at some point in their lives." "Level of education was higher for this group. The job selection motivations forces for this group consisted of intrinsic job factors as opposed to external factors," e.g., job characteristics satisfying a personal need as opposed to carrying out the wishes of our family.

Bogie (1976) found that 40% of 1835 Kentucky high school students showed discrepancies between their aspired and expected occupational goals. Such discrepancies tend to be lower for males than for females and vary inversely with socio-economic status, mental ability, and scholastic performance. The only variable associated with such discrepancies among females was socio-economic status. These results suggest that a statement of occupational preference probably ought to be considered against a back drop of values, attitudes, and the self-concept as a whole, before a true occupational preference can be identified. Petrik (1967), in an investigation of the affect of status on persistence of interest in selected college curricula, concluded that persistence of interest in selected college curricula is more apt to continue as socio-economic level goes down. Needs, values, and job attitudes were also believed to be at the roots of multi-dimensional rankings of jobs. Garbin (1967), using a selected list of 30 well known occupations ranging from astrophysicist to garbage collector and ranked from 1 to 30 by a group of college students, found that rankings varied depending on the dimension being considered. A profession could be rated fourth in prestige, but sixteenth in income. It was interesting to note that the multi-dimensional character of the top 15 most prestigeous occupations was most evident. The multi-dimensional character of the lowest 15 occupations on the prestige scale were less obvious.

Clark (1967) found that middle-class boys and lower-class girls showed a "greater preference for white collar and professional occupations" than did lower-class boys or middle-class girls. The status level given to a stimulus figure was higher for middle-class boys than for lower-class boys. A large proportion of lower class boys and girls was unable to assign a suitable job title to the stimulus figure. Earlier, Singer and Stefflre (1954) found sex differences among boys and girls in job values and desires. Boys were interested in power, profit, and independence. Girls preferred social service, "help others," and "interesting experience."

It appears to the researcher that until the middle 1940's vocational counselors were content to rely on measured interests as produced by paper and pencil interest inventories; these served as a basis for occupational choice. It became apparent to many, at about this time, that stability of career choice and job satisfaction are not only a matter of likes and dislikes, but a complicated network of forces acting to shape an individual's value system that will determine what he will do eventually. Super (1973, p. 190) suggests that "Values are objects that one seeks to attain to satisfy a need. Interests are the specific activities and objects through which values can be attained and needs met." Strong (1943, p. 43) stated, "An interest is an expression of satisfaction, but not necessarily of efficiency." His writings leave no doubt in the reader's mind that there are intervening factors throughout the work experience of an adult which could affect his monetary satisfaction with what he is doing. Blood (1969) investigated the relationship between ascribing to the Protestant Ethic and job satisfaction and concluded, "Although none of the correlations is large, the direction of the relationships is obvious." "This result implies that the more a worker agrees with the ideals of the Protestant Ethic, the more he will be satisfied in his work and with life in general." Finally, "Whether a casual relationship exists between the work value dimensions and job satisfaction is a researchable question. It seems more logical to the author to assume that work values precede and influence job satisfaction rather than the opposite." Schletzer (1966), using the Strong Vocational Interest Blank as a predictor, investigated "whether men who have measured interests congruent with the interests of their professions express more job satisfaction in these professions than do men whose measured interests are not congruent with their professions." She condluded that no significant difference between the two groups could be ascertained. Masih (1967) found that needs, interests, and values have a marked affect on career saliency among men and women. High-saliency men showed a preference for long periods of work and interest in higher level occupations. Middle-saliency men showed a "need to endure long periods of work," indicate interest in heterosexual relations" but, "they are not interested in higher level occupations." A prestige and achievement gradient was noted for women. High-saliency women are more concerned about prestige and achievement than are low-saliency women. Malinovsky and Barry (1965) tested Herzberg, Mausner, and Snyderman's two factor theory of job satisfaction. The two factors, intrinsic and extrinsic, eventually emerged as the motivator-hygiene theory of job satisfaction. The authors rejected the idea that the two factors represent two separate continua; the two factors did not appear to be mutually exclusive. They found sufficient reason to generalize beyond the Herzberg et al., results to suggest that "there are two general sets of work attitude determinants, identified as intrinsic and extrinsic, or motivator or hygiene, which contribute to the job attitudes of blue-collar workers." Although the white-collar worker is apt to be concerned primarily with intrinsic factor, the blue-collar worker, once he has achieved his intrinsic goals, may aim for hygiene goals as well. Job satisfaction, then, would be based on the degree to which he achieves both. Greenhaus and Badin (1974), setting out to test Korman's theory that postulates three sources of self-esteem--chronic, task specific, and social influence--found considerable reason to believe the source of a person's self-esteem could play an important role in task performance and satisfaction.

Personality factors have also received considerable attention in the search for answers to the questions about sound career choice, job satisfaction, and job success. Using the case method, observations and ratings, personality inventories, and projective techniques, researchers have supplied the counselor with an abundance of knowledge he can employ in career counseling with his students. Pietrofesa and Splete (1975) have provided us with an excellent review of substantive and procedural material in this area and have related it to the career development process. The use of projective techniques in exploring factors associated with career success will be discussed at a later point in this review. However, several studies are included here to illustrate the use of other approaches.

Cooley (1967), citing some of the findings of Flanagan et al., (1966) and theoretical propositions of Bordin and Wilson (1953) and Bordin (1943), conducted an extensive study designed to investigate the Interactions among Interests, Abilities, and Career Plans in a large sample of grade nine and grade twelve students. Cooley was interested in examining such propositions as career plans being related to basic dimensions of personality and that choice of career is a reflection of one's self-concept at the moment the choice is made. Among the many findings in this study, Cooley observed that "The ninth-grade stated career plan is as good a predictor of the grade 12 career plan as are 17 (Project TALENT Interest Inventory) grade 9 interest scales." Ninth grade interests appeared to be better predictors of ninth grade interests than of ninth and twelfth grade career plans. Regarding interest-ability relationships, Cooley used multi-variate analysis to test the hypothesis "that a significant portion of the variation in grade 12 interests that is not related to grade 9 interests is related to grade 9 abilities." His results supported the hypothesis. He concluded:

> The results are consistent with the proposition that vocational interests reflect aspects of self-concept while at the same time seem to be measuring dimensions of motivation. Interests appear to be measuring self-concept because interests change as the student matures and gains a more realistic picture of his own abilities and motives and those needed for various occupations. Interests appear to be measuring basic motives because they seem to affect the development of abilities and the career planning of the individual to some extent. (p. 16).

In a study dealing with consistency of career preferences, Osipow and Gold (1967) observed a higher Dominance score on the Bernreuter Personality Inventory for a group of college students with inconsistent career preferences as compared with a group with consistent career preferences, "reflecting the Is greater tendency toward self-assertion." Thomas and Mela (1976), searching for hypotheses and attempting to develop a typology for middle-age career changes, suggest that being "tough-minded" or "tender-minded" can influence the degree of vocational choice satisfaction depending on the individual's perception of his "achievement/success orientation." Although only a pilot study, in which ten corporate middle-aged dropouts were interviewed, they were surprised to find such a large variety of reasons for job change. Thoresen and Mehrens (1967), in a discussion of decision theory and vocational counseling, observed "Decision theory suggests that the way in which information is processed by the individual is strongly influenced by expectations and attitudes he has about himself, i.e., certain self-concepts."

Development and Use of Projective Tests as a Means of Describing Personality

Allison, Blatt, and Zimet (1968, pp. 135-141) trace the forerunners and the use of ink-blots in diagnosing personality to Kerner and Binet who experimented with ink-blots during the middle and late 1800's and to Whipple who published a set of ink-blots in 1910. Hermann Rorschach is considered by many to be the father of modern day projective testing. Prior to 1921, when his Psychodiagnostik was published, Rorschach experimented with ink-blots as a stimulus for free association. His book, however, emphasized the importance of the perceptive process and how perceptions are formed. This added a new dimension to what was originally a concern with the content of the subject's responses. It moved the diagnostic process from one of examining the imaginative, fantasy plane to a plane of the client's cognitive awareness (Rorschach, 1942, p. 16). The Rorschach is often referred to as an unstructured test composed of 10 black and white and colored ink-blots. The term unstructured is used to convey the idea that the designs are not intended to portray a scene, person, or activity that would, in any way, pre-determine the category, scope, or content of the client's responses. The responses rest entirely on the perceptions of the subject. Allison et al., (1968) observes:

> . . . the Rorschach can be looked upon as an experimental procedure with a vast array of perceptual modalities that are available to the subject. The dimensions he uses in his responses, be it location on the blot, the color, the shading, the formal properties of the card, or the accuracy of his perceptions, all are hypothesized to represent generalized modes of response. (p. 139).

Beck (1951, p. 101), in a commentary on the antecedents of projective testing, refers to the Rorschach as "...the invention of an objective instrument having a potential for penetrating into the whole person in his several psychological dimensions." Beck proposes that these psychological dimensions consist of "conscious intellectual activity, affect-dictated behavior, and those responses shaped by older emotional influences...unconscious." (p. 103). Beck concludes: "All of these merged in the idea of a fixed stimulus, the free association to which would be a depth instrument sunk into the personality, a flourescope into the psyche to enable one to observe it without trauma to the personality. (p. 104).

Beck (1961) mentions the fixed stimulus again as a fixed objective stimulus. The word objective conveys the fixed stimulus meaning--a universal stimulus. At the start of the test session, the examiner informs the subject he will be given 10 cards one by one. The subject is asked to look at the card(s) and tell what he sees. Beck emphasizes:

> ...that the essence of Rorschach procedure is to leave S entirely free. He makes his own selection, in each test figure, of the portion to which he reacts; any of a number of factors may determine what he sees; the content may be anything. In his test Rorschach thus combines two sets of conditions, (a) fixed objective stimulus with (b) freedom of S. (p. 2).

As the test proceeds, the examiner takes notes on the subject's responses. Upon completion, scores are obtained in three primary categories--location, determinant, and content. Totals and percentages are obtained for significant responses. At the conclusion of the final chapter, Beck (1961) makes what is probably one of the most significant statements regarding the use of projective test data. It appears to be applicable to any and all interpretations of projective test data, whether with the Rorschach, T.A.T., or any forthcoming projective occupational survey.

> With the completion of the summary, the task of observing the Rorschach test behavior ends. Here the interpretation labor begins. E here ceases to be a recorder. He becomes a psychologist. How good he will be in grasping the psychological significance of his test data will be a function of three variables: how accurately and impersonally he has observed and recorded; how soundly he knows the Rorschach test concepts; and how deeply as well as broadly he knows human nature. The Rorschach test answers no questions. It is only 10 ink-blots. It is never better than the brain of the psychologist using it. (p. 227).

It is probably because of the truth of this conclusion that psychologists have been unable to agree on or to come to grips with the problems of reliability and validity of projective tests. This researcher is faced with the same concern in developing a projective occupational survey.

One of the most widely used projective tests is the Thematic Apperception Test (T.A.T.) introduced by Morgan and Murray (1935) and developed by Murray (1938, All, 1943, All). The test consists of 31 cards. One is a blank. The remaining 30 depict a variety of scenes and some include people in what appear to be a variety of solitary and inter-personal relationships. Twenty cards are used, including the blank card. Cards are designated for boys, girls, men, and women.

The T.A.T. is relatively simple to administer. In essence, the subject is instructed to tell a story about what is going on in the picture, what let up to it, and how it will turn out. The examiner records the subject's story verbatum and makes a note of any hesitation, anxiety, shock, or unusual response characteristics. The entire protocol is then subjected to a clinical interpretation. The object is to identify and interpret any prevailing themes and to describe the subject's personality in terms of drives, anxieties, motivations, desires, needs, and frustrations.

It seems appropriate at this time to comment on the "unstructured" and "semi-structured" characteristics of the Rorschach and the T. A. T., respectively. Kleinmuntz (1967), in commenting on structure in connection with the Rorschach, points out:

> The fundamental assumption underlying this projective technique is that there exists a relationship between the way an individual organizes or "structures" the ink-blot, and his personality. The blots are considered suitable stimulus materials because they are relatively ambiguous. So, when a subject is instructed to tell what he "sees" in the blots, he presumably reacts in a personal and unlearned manner. His perceptions are said to be selected and organized in terms of his projected needs, wishes, desires, characteristic patterns of response, and by the physical properties of the blots themselves. (p. 264).

This seems to the researcher to be a clear statement about what actually goes on during projective testing, regardless of the projective test used. The Rorschach is an unstructured instrument consisting of nonsense symbols created by a chance smear of ink on a piece of paper. They mean nothing except that meaning the subject wishes to bring to them. The T. A. T. consists of semi-structured, partially structured, less ambiguous material that automatically sets the stage for the response; the subject responds to the scene in terms of himself, his own frame of reference. In a phenomenological context, he says what he says because it is the only thing he can say, otherwise he would say something else. The more structured the stimulus, the less ambiguous the stimulus appears, automatically bringing with it apperceptions that are less ambiguous, in clearer focus. This is perhaps why the Rorschach seems to have value for the researcher in detecting "what" and "how" the subject feels. The T. A. T., in addition to this, also provides clues to the "why." The increased structure brings the subject's responses closer to the surface which, in turn, permits a greater degree of speculation as to the reasons for the subject's drives, motives, and anxieties. This also suggests an inverse relationship between degree of penetration into the psyche and the amount of structure provided by the stimulus.

The nearly complete structuring of the stimulus in terms of people engaged in work is the new ingredient in the researcher's projective occupational survey. There is no disagreement with Kleinmunz when he states:

> The fact that the ink blots are not socially familiar objects or situations, to which a subject must give culturally prescribed responses, is the Rorschach procedure's greatest asset. This unfamiliar 'plastic field'--in the form of blots that offer the subject an opportunity to reveal his 'private world' without being aware of what he is telling about himself. . . (p. 264).

It seems reasonable to suspect that less structuring of the stimulus leads to a more disarming, less threatening relationship, and, consequently, a greater revelation of the client's private world. The partial structure of the T. A. T. also preserves the confidentiality of the responses to some extent. However, it is felt that discussions of the world-of-work do not require that degree of confidentiality. They do not give rise to threatening life situations to inhibit responses. In this sense, a projective occupational survey is expected to yield valuable information about needs, desires, motivations, values, and interests.

Frank (1948, pp. 42-60), Anastasi (1968, p. 494), and Lindzey (1961, p. 45) have enriched the definition of projective techniques by emphasizing the possibility of unlimited response patterns, the wholistic approach to personality study, and the avoidance of threat to the subject. There is every reason to believe that two different people, with entirely different frames of reference, could perceive the work of a milling machine operator in entirely two different ways. One sees the oily surroundings, the pile ofmetal chips, moderate pay, and the workman's clothes as somewhat unpleasant and not consistent with his self-image. The other person perceives this work situation as a satisfying experience, an opportunity to produce a small unit in a larger configuration of parts. He sees the subject as taking pride in caring for his machine and equipment. He is especially pleased he is able to keep scrap to a minimum and yet produce parts of high precision and quality. Both may not relate these impressions to themselves, but the investment of their values, needs, and interests on what they see could come through very clearly in their responses to the stimulus. Bell (1948, p. 494) refers to this process as "objectifying unconscious behavior so it may be observed."

On the other hand, the projective approach is an irritant to the normative scientist. Rabin (1968), admitting the richness of response permitted by projective tests, is also alert to the possibility of gross error in the examiner's analysis of the results. Anastasi (1968, p. 517) points out the absence of standardization of administration and scoring.

Considerable attention has been focused on the reliability and validity of both the Rorschach and T. A. T. without providing any clear cut evidence that either has satisfied the rigid demands of scientific scrutiny. A reliability coefficient of r = .90 is usually considered acceptable as evidence of consistency and stability of the test. Validities of r = .50 or .60 begin to generate confidence that there is sufficient similarity between the criterion and the instrument measures for descriptive and predictive purposes. In considering reliability of projective tests, one often hears the question. "Who is to say what must be consistent or stable--is it the number of responses, the similarity of interpretations of different judges, or the replication of previous responses?" Even though precise reproduction of a previous protocol may not be possible, the nature of the subject's responses may be such that diagnostic results are similar to a high degree. That is to say, the validity of projective tests could be higher than their reliability.

In discussing research dealing with the predictive qualities of the Rorschach, Allison et al. (1968) observed that:

> Such studies disregard the fact that the Rorschach can be used to give a picture of intrapsychic balance and of internal organization,

> but there is no way in which one can assess via the Rorschach in what type of environment or under what social pressures a particular type of patient, parolee, or student will find himself. (p. 140).

Kleinmunz (1967), in a review of the literature on the subject of reliability and validity of the Rorschach, concludes:

> ...since responses produced on these tests play a crucial part in personality description and assessment, and since reliability studies indicate that Rorschach responses are highly unstable, it is reasonable to conclude that interpretations based on them must continue to be considered highly speculative. (p. 281).

In commenting on validity, he concludes, "There is very little convincing evidence to support the validity claims made for the technique by its proponents." (p. 281).

In reference to reliability and validity of projective techniques in general, Anderson and Magary (1967) are of the opinion: "Such doubts, such skepticism are a part of the trend of the times. In fact, they constitute a horizon currently being explored. Psychologists have found no solution to this dilemma." (p. 341).

In summary, the use of projective tests has had a long history dating back some 75 years, during which unstructured and semi-structured stimuli have been employed to facilitate the exploration of personality. In essence, their value has been predicated on the belief that they exhibit the quality of being able to probe the psyche of the subject without inhibiting the production of conversation that ultimately leads the subject to revealing his private and, otherwise, inaccessable world. When discussed in the usual psychometric sense, reliability and validity of projectives are questionable--their usefulness and value are generally measured by the extent to which the psychologist feels they have served their purpose in a particular instance. It has been suggested that the degree of structuring of a projective simulus may be inversely proportional to the degree of depth of exploration of the personality permitted and that in the case of the new projective occupational survey, the high degree of occupational structuring of the stimulus will not produce threats to the subject nor restrict the output of valuable information. The above is not intended to minimize the concern for reliability and validity of projective devices, but simply, to point out the diverse views on the subject in spite of the long exposure to such techniques.

The Use of Projective Tests in Identifying Personality Characteristics Considered to be Associated With Occupational Success

Interests as a reflection of personality or personality as determining interests, has been a subject of concern to interest theorists since the inception of measurement of human attributes. In his discussion of the "four major interpretations of the term interest," Super (1949) in referring to inventoried interests states:

> The concept of interest as drive requires discussion, for when it is said that the individual is interested in winning friends or gaining prestige, the type of interest referred to is not covered by any of the concepts so far discussed. Interests or drives of this type are of a different and more fundamental order than either specific or underlying interests; they constitute a deeper layer of personality. Unlike interests, which are sometimes not, drives or needs are generally considered to be one of the central aspects of personality. (p. 380).

In commenting on values, Super (1949) suggests: "If values are thought of as representing a layer of personality which is deeper than those at which vocational interests and social attitudes are found, then it is significant that there is also some relationship between these two types of interests." (p. 400).

Super (1949) synthesized the opinions of Berdie, Bordin, Carter, Darley, and Strong and concluded that a theory of interests should take into account heredity, aptitude, interests, "and deeper layers of personality such as values and temperament." (p. 405). O'Connor (1975), reviewing the work of social scientists, noted three prominent dimensions of the values construct--Value Bases, Value Sources, and Value Elements. He states that "personality studies long ago revealed that people are characterized by values that are primarily founded on either a cognitive or affective basis." (p. 2). Considering value bases, the cognitive-oriented person finds his intellect in command of his actions. Knowledge, truth, accuracy, and efficiency are in sharp focus for such a person. The affective-based set, on the other hand, finds feelings and emotionality highly differentiated. Such people are concerned with "aesthetic valuations" or "moralistic" matters. The researcher suspects that Super's "deep layer" idea is in harmony with these postulations. If value bases are the precursors of action, it may be reasonable to surmize that eventual career choices may have their inception in such early formulations and that these early ingredients facilitate the development of what Snygg and Combs (1949) call the "phenomenal self." (p. 79). Recognition of the elements of the phenomenal self leads to an individual's formation of a self-concept and, possibly, ultimately to goal-directed-activity. Oppenheimer (1966) suggests that the self perceptions that ensue can stimulate motivation toward an occupational goal. It is these counselee perceptions of himself in a given vocational setting that the researcher hopes will be projected into the responses to the projective occupational survey.

The tenuous nature of specific vocational choice is pointed out by Williamson (1939, pp. 408-409) in his summary of five years of research dating back to 1928 and referring to such investigators as McHale, Mitchell, Beeson, Tope, and Fryer. The difficulty young people had then in making sound and stable occupational decisions is no different today. The data appears to be consistent with the researcher's findings, mentioned in the opening pages of this study, approximately 45 years later. Hahn and MacLean (1950), aware of the dilemma suggest:

> Hence, counselors are found to base their predictions upon the counselee's growing understanding and decision and upon the counselor's clinical insight and judgment as to weighting determinants which are too complex for clear verbalization unless cast in the most general terms. (p. 75).

Referring to reliability and validity of vocational predictions, Hahn and MacLean (1950) conclude:

> But the long prediction from performance and testing on such subjects to occupational success twenty years later is very unreliable and invalid. Consistently to predict life vocational patterns, even in terms of field and level, for children or youngsters in the early teens is usually beyond the skill of the best of our clinical diagnosticians. (p. 76).

Roe (1956, pp. 80-100), reviewing the literature on occupations and their relationship to personality, noted the limited number of studies in this area, but concluded that occupational preferences and personality are probably closely related. She also observed that depth analysis studies via projective techniques were not in sufficient quantity and surmized that lack of time to undertake such work was the limiting factor.

Bartlett (1916), experimenting with ink-blots, was perhaps the first to see the possibility of evoking occupationally valuable information via the projective approach. The work of McClelland and his associates (1953) has inspired the investigation of the Achievement Motive in employment using the T. A. T. Like Goldstein (1960), others have used modifications of the T. A. T. to reveal occupational interests. Segel (1965) used both the Rorschach and the T. A. T. to explore the possibility of detecting useful vocational interest information. Eriksen (1954), investigating needs in perception, concluded that needs can influence one's perceptions of projective material.

One of the earlier studies using projective material was conducted by Henry (1949) who used the T. A. T. as a means of obtaining personality descriptions. Successful executives were identified and were found to possess a strong desire to achieve and to exhibit drive, aggressiveness, decisiveness, and a fear of failure.

Small (1953) identified the needs of two groups of adolescent boys using 15 T. A. T. cards. Job concept interviews were conducted to determine the subject's first and second choice of vocation. A r = .44 was obtained between the job concept interview and the T. A. T. analyses. Minor and Neel (1958) used McClelland's projective method and discovered a r = .74 between Achievement Motive and the occupational level choices of a group of 53 Korean veterans. Mahone (1960), using the Strong Vocational Interest Anxiety Scale, and six projective pictures to ascertain the degree of need for achievement, concluded that college males judged to be unrealistic in their vocational aspirations were found to be lower in need achievement and higher in fear of failure than subjects judged to be realistic in their vocational goals.

In a study designed to "investigate the relationship among several measures of psychological needs and vocational and educational interests, Dressler (1968, p. 66) obtained imagery scores from T. A. T. stories and scale scores on the Minnesota Importance Questionnaire. Imagery assessment for need for Achievement, Power, Affiliation, and Aggression were obtained, Manifest needs were determined from the T. A. T. and inventoried needs from the M. I. Q. Dressler found "a few statistically significant correlations between the T. A. T. and M. I. Q. variables. (p. 122). "There were very few statistically significant correlations and F ratios between T. A. T. and HGVII variables." (p. 122). "There were a number of statistically significant, meaningful, and consistent correlations between M. I. Q. and HGVII variables." (p. 122). Based on a stratified sample of 150 male students enrolled in a small Jesuit liberal arts college and enrolled in science, liberal arts and business, Dressler drew the following conclusions: "the T. A. T. and M. I. Q. appear to be measuring different kinds of needs or different aspects of needs" (p. 116, "Scores on the vocational keys and on the college curricular keys of the HGVII [are] significantly related to college curricula" (p. 117), "psychological needs, as assessed by both T. A. T. and M. I. Q. scores, [are not] significantly related to keys on the HGVII and to college curriculum" (p. 117), "There [is] more relationship between manifest needs and manifest interests that are statistically significant than between manifest needs and inventoried interests" (p. 118), and "There [is] more relationship between inventoried needs and inventoried interests that are statistically significant than between inventoried needs and manifest interests" (p. 119). "Inventoried needs (M. I. Q. scores) were related to inventoried interests (HGVII scores) but not to manifest interests (curricular choice). " (p. 119). The researcher was impressed with the review of the literature in this study, with the attention to details, the desire to be scientifically precise, and the treatment of the outcome data.

Cummin (1967) tested the hypothesis "that more successful executives would score high in an n Affiliation, n Aggression, and n Deference. " (pp. 78-81). A special form of T. A. T. was constructed and administered to two groups of differing levels of management. Four pictures made up the test instrument. Each depicted businessmen in various situations. Although that portion of the hypothesis involving n Autonomy, n Aggression, and n Deference was not supported, the analysis differentiated the successful executive from the less successful executive in n Achievement and n Power beyond the .01 level of confidence. n Affiliation results appeared in the opposite direction to the hypothesis, suggesting that the higher level executive has a need for high excellence standards, responsibility, and control in the organization.

Grant, Katovsky, and Bray (1967) studied the value of projective techniques in assessing management potential. The Rotter Incomplete Sentences Blank, a specially constructed Management Incomplete Sentences Test, and six cards of the T. A. T. were administered to 355 subjects. Two clinical psychologists composed 355 reports and wrote a description of each subject's personality, placing special emphasis on those parts of the subject's background that could have a bearing on his success in management. The protocols were analyzed by one psychologist who wrote a report for each subject based on all three instruments. A group of nine assessors, using all available data on each subject and a coder's rating manual, assessed each subject on nine variables consisting of Achievement, Motivation, Self-Confidence, Work or Career Orientation, Dependence, Affiliation, Optimism-Pessimism, Willingness to Assume a Leadership Role, Willingness to Accept a Subordinate Role, and General Adjustment. For purposes of control of educational background, the group was divided into a college sample (graduated from college) and a non-college sample (men who had not attended college.) The college and non-college samples exhibited considerable similarity. The authors felt that, in spite of the "judgmental" and "subjective" nature of the evaluation, "stability" was achieved. In general, the assessment technique used by the authors yielded relevant information about factors associated with management success. Leadership and Achievement Motive were significantly related to managerial progress as revealed by a salary attainment. As would be expected, both Leadership and Achievement Motive were significantly related (negatively) with Passivity and Dependence in both the college and non-college samples.

It was interesting to note that projective correlations were higher than correlations for personality questionnaires. Although the projective reports made available to the assessing staff appeared to influence their assessments to some extent, it is the opinion of the researcher that this study represents an excellent example of the objectivity and control required of future studies employing projective techniques, especially in view of the skepticsm being expressed by norm-oriented experimenters.

The Development and Use of Projective Tests in Career Planning

The use of projective devices to obtain occupationally related material for career planning had been well established by the 1950's. Giles (1936) used photographs to depict vocational situations which he used in counseling as early as 1936. Pierce-Jones and Carter (1954) developed an instrument consisting of photographs representing the interest categories of the Kuder Preference Record in 1954. Although a median r = .81 between their results and the Kuder were obtained, the reliability of the instrument was questioned. McClelland, et al., (1953) proceeded along the lines of detecting personality characteristics that have relevance for job success. If management or supervisory success is determined in part by the possession of a strong desire to achieve, then identifying this characteristic in potential managers would be an asset in the employment process. Goldstein (1960) and Segel (1965) appear to have been working in this area using the T.A.T. At this time, there was also an interest in developing a new way of presenting the vocational stimulus to the client. Instead of verbal or printed material, drawings and photographs were used to elicit the "like-dislike" responses for a given activity. Others linked with the search for new approaches were Ammons, Butler, and Herzig (1949, All, 1950), Geist and McDaniel (1952), Olsen and Venema (1968), and Geist (1971, All). The need was evident. Hahn and McLean (1950, p. 76) had emphasized the tenuous nature of specific career choice. Super's review of the studies dealing with age differences and interest stability (1949, pp. 390-395) suggested a crystalization of interests between the ages of 18 and 25. Correlation studies dealing with age differences and interest stability between adolescence and early adulthood, reported by Super, appear to fall in a correlation range between the middle .50's and .80's. Many center around r = .70. Such a predictive index is generally considered substantial even though predictions based on such a relationship still leave us with a chance for error of approximately 70 percent (1 - k)(100), $k = \sqrt{1 - r^2}$. It does not seem surprising to the researcher that high school, college, and employment counselors observe the difficulty young people have in arriving at career decisions. Specific occupational choice or even a firm feeling about a broad occupational area may be too much to expect. Providing there is some merit in the above reasoning, it is not unreasonable to suspect why people like Super began to look below the surface to values, needs, attitudes, and desires. Phenomenological psychology has given this facet of interest investigation a strong theoretical base. Snygg and Combs (1949) point out:

> Until we have found more adequate methods of discovering the needs which individuals are attempting to satisfy and goals they are trying to reach in this process, the individual's behavior will continue to frustrate our most carefully laid plans to control and predict behavior. (p. 52).

and: "Depending upon the concept of self-possessed by the individual, he will choose this goal or that as appropriate for such a person as he regards himself to be." (p. 101).

Since these earlier writings, speculation has begun to emerge suggesting that identification of career interest or choice of career field may represent only "the tip of the iceberg." Ladahl and Kejner (1965) suggest that the nature of the job, its detail and work to be performed, is independent of job satisfaction. A career goal may be viewed as potentially gratifying to one's needs, but in actuality the job falls short of such gratification due to a variety of psychological conditions closely tied into one's self-esteem system. Lofquist and

Dawis (1975), in a study of vocational needs, work reinforcers, and job satisfaction, suggest that attention be given to "reinforcer preferences" and "specific satisfactions with the reinforcers."

Thus far, the study of occupational interests has moved through several significant stages, each contributing more penetrating ways of probing for relevant information. Parsons was aware of the importance of interests in career selection. Paper and pencil interest inventories, like those of Strong and Kuder, have and will continue to make contributions. McClelland and his followers used projective instruments to identify personality characteristics that are important to employment success. Others, such as Lazarus (1963) and Goodstein (1965), embracing the phenomenological point of view and not quite satisfied with the results, contend that the objective world has a different meaning for different people. As self-concepts vary, so will the way each person responds to his environment. His perceptions will determine his needs, values and interests. These writers appeal for a closer examination of the inner world of the individual. This may be what Allport (1937) had in mind in his discussion of "Common Traits: Psychography" and specifically in reference to attitudinal traits when he observed: "The last five variables in the psychograph relate distinctly to motivational traits or interests. No psychograph would be complete without one dimension to represent subjective values which are the core of the dynamics of behavior.... (p. 427).

Super (1973), who has "worked sporatically over the past three decades at the development of one values inventory," refers to the "hierarchial nature of needs, traits, values and interests." Values represent that which is sought while "interests are the activities in which the values are sought." Here is the point of the dilemma that presents so much difficulty to the career counselor. His counseling must produce the conditions that will lead the counselee to a point of knowing and understanding his values structure and to a point where he discovers and decides on an appropriate way of translating these values into action (activities). Super's Work Values Inventory is intended to serve the requirements of the first condition. As such, the instrument utilizes the self-report approach. In spite of its inherent error, it avoids the error introduced by approaches from which inferences must be made--observed behavior or the activities the subject has chosen. Super (1973, p. 198) acknowledges the possibility of the self-report type error but presents several studies whose experimental results support the approach.

Olsen and Venema (1968, pp. 1-8) were of the opinion that ordinary counseling procedures do not tap the psycho-dynamics that influence occupational choice. They provide the counselor with only a small portion of the information of the client's knowledge and feelings about the world-of-work. Olsen and Venema developed a picture projective instrument consisting of ten drawings depicting people at work in four occupational areas--distribution, construction, agriculture, and services. The instrument was used to obtain information from 88

Caucasian and Negro Job Corps enrolees and 91 Caucasian and Negro 9th grade pupils. A blank card was also introduced along with the set of ten occupational drawings. The questioning procedure resembled that of the T. A. T. Responses were recorded in writing and analyzed. Results showed that the procedure is capable of yielding information about attitudes toward tasks, material, tools, environment, and interpersonal relationships. Parental influences appeared to have very little affect on the responses. There were limited references to prestige and higher order needs. Basic needs were referred to frequently, citing such needs as money, food, clothing, and security. The students in this sample were apparently not too concerned with long range goals. It is difficult to ascertain whether the absence of long range goals was due to the absence of needs, the absence of a well formed value system, or the lack of interests. One wonders how valuable a set of inventoried interests would have been at this stage of this group's development. Based on research presented earlier, interests are apt to be in their formative stages in grade 9. Values are only beginning to come into focus and needs and desires are concerned only with the present and immediate future. The limited production of material might have been a function of the nature of the sample. The authors indicated that the experimental group consisted of a group of grade 9 students with a "restricted" background. Olsen and Venema did not go into detail regarding the analytical procedures employed or what attempts were made to probe the deeper layers of attitudes. Geist and McDaniel (1952) in an attempt to overcome the limitations of an entirely verbal interest inventory, developed a picture interest inventory (The Geist Picture Inventory) based on Kuder's 10 occupational categories, plus an 11th, Dramatic category. In addition to these, a Personal Service category was invluded for females only. A scorable Motivation Questionnaire is available and may be administered on an optional basis. Geist's inventory (1971) consists of 44 triads of picture drawings for males and 27 for females. The subject is informed the pictures portray objects or people engaged in jobs, activities, occupations, and hobbies. He is instructed to select the one in each triad he likes best. Upon completion of the inventory, the questionnaire, consisting of 35 male and 38 female motivation forces items, is completed. This section permits the subject to give his reasons for his choices. The motivation forces items are grouped under 7 major headings including: Could Not Say, Family, Prestige, Financial, Intrinsic and Personal, Environmental, and Past Experience. Once scoring is completed, a profile chart is provided to plot the results of both parts of the inventory.

Reliability coefficients are reported as being "at high levels of statistical significance" and validity studies between the scales and various occupational groups "representative of a particular occupation" yielded T-scores "larger than for the other interest scales." Geist (1971) concludes:

> On the basis of the extensive and comprehensive standardization and validity studies made, it is concluded that the GPII is a highly reliable and valid instrument of occupational and a vocational interests of male and female populations, ranging from the eighth grade through high school and college, and with adult groups. (p. 12).

Geist's inventory provides the counselor with an instrument that gathers interest data as well as information about the forces that prompted the subject's selections. In essence, the inventory is a self-report device whose usefulness in career counseling has its roots in statistical, normative, or psychometric support data. The projective possibilities of the instrument is an optional feature which the counselor chooses to engage in depending on the needs at the moment. The questioning or elaboration on the subject's choices is not restricted to drawing-type instruments; this is also possible with verbal-type inventories such as the Strong and Kuder. No discussion of approaches or studies relative to a purely clinical interpretation of the results is presented. In the presentation of the purposes of the GPII, Geist states:

> Projective uses of the GPII provide a means of obtaining additional information. Each GPII drawing can be used to elicit stories, thus enabling the counselor to gain insight relative to occupational rejections, attitudes toward work, family relationships, and information of value in counseling. (p. 1).

Although the GPII is a pictorial interest inventory, with some possibilities of projective usefulness, it appears to the researcher to be a like-dislike kind of instrument. An interesting feature of Geist's instrument, is that it incorporates a self-report means of exploring some needs and values via a Motivation Questionnaire. One may question the accuracy of such self-report information. However, Wall, Osipow, and Ashby (1967), in a study to determine whether or not college students' results on the Strong Vocational Interest Blank coincided with ratings of self using Holland's six personality types (1959 and 1973, All), found considerable evidence of congruity as well as a significant test of Holland's theory.

The Wide Range Interest-Opinion Test developed by Jastak and Jastak (1972) consists of 450 drawings depicting people engaged in various job and activity pursuits. The pictures are arranged in triads very much like the Kuder paper and pencil interest inventory. The subject is instructed to choose the activity he likes most and one he likes the least from among the group of three. Rather than 9 occupational areas, the W.R.I.O.T. contains pictures touching on 18 occupational clusters and 7 vocational attitude areas which are: Sedentariness, Risk, Ambition, Skill Level, Activity by Sex, Agreement, and Interest Spread. As the name suggests, the test samples a wide range of activities extending from the unskilled to the professional. Norms are provided for 8th, 10th, and 11th grade students and adults, for males and females. The authors feel semantic difficulties are eliminated through this form of test and that a greater opportunity for expressing needs, values, and job attitudes is provided.

The authors include a challenging statement to reliability, preferring a clinical judgment of reliability to a statistical one. However, split-half reliability coefficients range from .83 to .95 for males and .82 to .94 for females for the entire group of 25 scores. The researcher believes the authors, in discussing validity, embrace the construct validity point of view rather than the statistical, correlational approach when they say, "Correlation methods do not disclose the clinical goodness of a test. They merely tell us something about the technical characteristics of the design and about the features of the population sampling tested." (p. 13).

The Vocational Apperception Test (VAT) developed by Ammons, Butler, & Herzig (1949) was developed for purposes similar to those of the researcher's. Ammons, et. al., refer to these purposes as:

> Vocational counseling is limited in its present effectiveness by the lack of techniques suitable for relating vocational problems to personality characteristics. Paper and pencil personality tests are almost totally inadequate to accomplish this, and interest inventories were never intended to serve this purpose of relating the two areas. The Vocational Apperception Test (VAT) was designed to obtain a specificity of elicited vocational information combined with the type of depth material available from projective testing. (p. 1).

The VAT test consists of 18 drawings, 10 for women and 8 for men. The authors feel the test is most suitable for college students. Each drawing depicts a person at work. The subject is asked to tell a story about "how the person came to be in this situation," "how he feels about it," and "what the future holds in store for him."

Although a quantitative scoring approach is suggested in the manual, none is provided as a reference for the reader. However, an excellent list of categories of responses is included as a guide to what to look for in the protocol. The major categories include: General Preference for an Occupation, Reason for Entering an Occupation, Areas of Concern to the Individual, Mechanisms Used in Solution of Conflict, and Outcomes.

Ammons, Butler, & Herzig (1950) report a study with 40 female college sophomores and 35 male college juniors, seniors, and graduate students using the VAT and the appropriate Strong Vocational Blank for Men and Women. "Scoring consisted of categorizing each response under one or more of the sub-headings in each main scoring area." Rescoring of the protocols resulted in an 86% agreement. "Although the inter-personal consistency between experienced and inexperienced scorers was not as high (mean of 69 percent) as the personal consistency of the more experienced Es, it was felt to be satisfactorily high." In a comparison of Strong interests and VAT results, the authors report "The hypothesis of no relationship could be rejected at the 10 percent level of confidence for women and at the 2 percent level of confidence for men." The authors concluded, "Although a relationship was thus demonstrated, it is not as clear-cut as one might like." In addition to these data, a broad variety of projections found in the stories were reported including personality characteristics, attitudes, needs, and preferences.

Campbell's dissertation (1972) describes: "...the development of a communications catalyst, the Occupational Photo Association Technique which combines elements of projective techniques, photographic reality, and decision-making models into a broad band vocational evaluation instrument." (p. 1).

One of his major hypotheses deals with the instrument's "ability as a catalyst in enhancing cross-cultural communication between counselor and client" (p. 1), and its usefulness in vocational decision-making. He stresses the importance of bridging the cultural gap he found in his particular job setting and the desirability of an instrument that may assist in accomplishing the task. The point is well taken, for it reminds us that in counseling in general, whatever the setting, there is an information gap, a need and interest gap, a perceptual gap, and a self-concept gap between the counselor and the counselee. These gaps can enhance, retard, or otherwise affect the outcome of career planning. It becomes evident early in this study that, even among experts, there was a substantial difference in perceptions of what was going on in a photograph depicting a person at work and to which career category the photograph belonged. How the counselor leads, presents options, or assists in discussions of the counselee's needs and values, can be quite different for a counselee depending on who his counselor happens to be. Campbell alludes to this idea in his discussion of decision-making theory.

Campbell characterizes his photographic approach as simulating a "Walk-through"--a tour of a variety of vocational settings that could enhance the effectiveness of career exploration. He also observed that: "While vocational interest patterns are the main focus of attention in this pilot effort, it should be understood that the freedom of response allowed by the projective technique can go far beyond the evaluation of vocational interest." (p. 14).

Fundamental to Campbell's and to the present research, is Eriksen's observation (1954) that the subject's needs will affect his perceptions of a projective stimulus and, as mentioned in several previous instances in this study, affect the subject's productions. These productions can be useful in the career-decision making process. Although projective production of occupational attitudes may not be the major constituent of a career-decision making model, the material produced could be used in connection with, for example, Tiedeman and O'Hara's decision-making paradigm (1963, All) beginning with the "Exploration" process and culminating in the "Integration" of the self with a course of action. The results could be used in the service of Friel and Carkhuff's career-decision making model (1974, All)--in the search for information about self, goals, needs, values, preferences, and occupational outlets.

Considerable space is devoted to Campbell's study in this review of the literature, since his work is conceptually similar to the present study, in spite of some differences in design details of the instrument and use and treatment of the results. It is particularly noted that Campbell found the literature wanting in this area of interest exploration. This researcher finds himself in very much the same situation. Unless in production at the present time, there is no photographic projective occupational survey device available that relys, for the most part, on clinical interpretation.

Campbell selected an assortment of 90 photographs depicting occupations after Roe's eight-field classification system (see Roe, 1956, p. 151). Nine levels were utilized including Roe's six plus three additional levels dealing with modified employment, unemployment and institutional (unable to maintain himself). Subjects were asked to look at all 90 photographs and to choose the seven they like the most and the seven they like the least. After the sorting process was completed, the subjects were asked to arrange the seven photos liked most in order, beginning with "liked best." An inquiry about the seven photos followed. The same process was followed for the seven photos liked the least. A further inquiry was conducted to identify the "commonalities" existing in the liked and disliked photos. A record form was provided the counselor to permit a recording of the counselee's comments and observations of his behavior. The data from 74 protocols were subjected to clinical interpretation for field, level, and data-people-things ratings.

Campbell concluded that content validity had been demonstrated while a hypothesis relating to construct validity had to be rejected. The latter hypothesis states that, as acculturation is approached, greater discrimination between likes and dislikes will occur. A subjective analysis of the extent to which the instrument increased communication between the counselor and the counselee and its ability to produce "new and useful information" revealed satisfactory evidence of the production of such information. Case studies were presented to illustrate these findings.

The researcher feels Campbell's study has given impetus to this facet of interest investigation and should be commended. The construction of an appropriate instrument from what seems to be an infinite number of photographic possibilities is a task of no small magnitude. Campbell concluded that content and clinical validity had been demonstrated and that reliability would be determined from clinical use. Like Jastak and Jastak, Campbell found the principles of statistical reliability inapplicable in his study. In his closing remarks, Campbell was of the opinion:

> The Occupational Photo Association Technique does function as a catalyst for communication, particularly useful in a cross-cultural situation. It is vocation-specific, which increases the probability of communication relative to vocational or rehabilitation counseling objectives. (p. 127).

Summary

The foregoing review of the related literature presented the results of a selected group of studies and the opinions of a notable group of experts who have long been associated with the problems of diagnosing personality, relating personality to occupational success, or developing and using projective material in making career decisions. Values, motives, self-concept, and aspirations were seen to play an important role in career decision making by influencing the kind of career pursued and the degree of job satisfaction and career satisfaction achieved by the worker. Although not mutually exclusive, social status, family influence, sex, and intellectual potential were also seen as having a bearing on career decision.

Projective tools such as the Rorschach and the T. A. T. were forerunners of newer and more specialized projective tools which were later found to be valuable in career diagnosis and planning. As these earlier instruments were found to supply the clinician with valuable information regarding the organization of personality, anxiety, and deviation in personality adjustment, some researchers, interested in the field of career planning, saw a potential value in using projective devices in exploring and exposing the antecedents to career and job satisfaction. Super made an early plea for getting at the "deeper layer" and the individual's value system. Snygg and Combs' phenomenological frame of reference emphasized the self-concept and McClelland has inspired many studies of the achievement motive in employment. The Rorschach and, more recently, the T. A. T. have been widely used to assess personality as it is related to choice of curriculum job success, managerial potential, and employment motives. The results of these investigations strongly suggest the use of projective devices in such instances. However, it was pointed out that the normative scientist is apt to be less enthusiastic, questioning the reliability and validity of these techniques. The researcher observed that a continuum of structuring appears to exist between the Rorschach on one hand, and the newer projective occupational exploration devices on the other. It was suggested that greater occupational structuring could be more effective in producing occupationally related material.

Although the use of occupationally oriented pictorial devices in career planning is not a new concept, a substantial interest in their use, in the researcher's opinion, did not begin to emerge until the 1950's. Some test developers presented a set of drawings closely resembling the items on the Kuder Preference Record. A quantitative normative approach has been used to assess the occupational preferences of the subject in such instances. Others developed pictorial devices depicting people at work and have employed a modified clinical interpretive approach in evaluating the results. It was surmized by the researcher that unless in production elsewhere at this time, no purely clinical photographic projective occupational survey instrument is presently available. However, there is a tendency to view the use of projective tools as viable vehicles in probing for the values, motives, needs, and personality characteristics that often elude the researcher with the use of conventional paper and pencil interest inventories.

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CHAPTER IV

CREATION AND USE OF THE PHOTOGRAPHIC PROJECTIVE OCCUPATIONAL SURVEY INSTRUMENT

Restatement of the Problem

The purpose of this study was stated as being the creation of a photographic projective occupational survey instrument, having the capability of being able to reveal significant information about a subject's occupationally related needs, goals, values, attitudes, interests, and aspirations. The instrument is expected to be used as a clinical tool in a manner very similar to Murray's Thematic Apperception Test. The subject's productions culminate in a protocol that is analyzed for useful career planning information. As implied in the hypotheses in Chapter I, clinical interpretations should be in harmony with the available data on students who have made sound career decisions or have been engaged in appropriate employment. Where such agreement does not exist, clinical interpretations are expected to provide the counselor with useful information regarding possible conflicts in needs, work attitudes, values, and interests.

Creation of the Instrument

Like the T.A.T., which is composed of a number of semi-structured pictures, a photographic projective occupational survey instrument would simply be composed of a number of appropriate occupationally structured photographs. The photographs would be structured in the sense that there would be minimal ambiguity regarding the occupational activity being depicted. Differences in counselee productions would be due to differences in meaning the activity has for the counselee. Aside from the format and technical considerations of the photographs, several preliminary constructional problems became apparent at the outset. Two major ones were:

1. Determination of the major occupational field categories and levels that should be chosen for the instrument.

2. The acquisition of a sufficient number of photographs depicting occupational activity in the chosen field categories and levels.

Given in unlimited amount of time for testing and being able to assume no fatigue on the part of the subject, an unlimited number of fields and photographs could be employed. The survey process would cease when the counselor was satisfied he had obtained all the significant information the counselee could produce. The impracticality of such an instrument and procedure is obvious.

The major field categories of the most prominent interest measuring devices and occupational field category systems were examined. It appears to the researcher that the majority of the scales and systems were developed by way of heuristic or rule-of-thumb approaches. The Strong Vocational Interest Blank (see Campbell, 1971) uses 11 major occupational scales to describe the world of work, the General Interest Survey (Kuder, 1963) 10, the Ohio Vocational Interest Survey (D'Costa, Odgers, & Koons, 1969) 24, Hall Occupational Orientation Inventory (Hall, 1971) 23, Career Planning Questionnaire

(The Psychological Corporation, 1972) 20, Dictionary of Occupational Titles (U.S. Government Printing Office, 1965-1966) 22, U.S. Office of Education (see Livelyhoods, 1974) 15, and Roe (1956, p. 151) an eight group occupational classification. A careful examination of the field categories used in the above revealed that the differences between them were more apparent than real. Jobs can rarely be assigned to mutually exclusive field categories; the overlap between them is considerable. Starting with the lowest common denominator of categories--people and things--a fan-out of categories could be limitless. The researcher prefers to think that four categories could serve as a point of departure for counseling young people--Technical, Business, Creative, and Human Services. Some would prefer, like Kuder has, to divide Technical into separate categories such as Mechanical, Scientific, and Computational. Business is often divided into Public Contact, Business Detail, and Computational; Creative into Artistic, Literary, Musical, and Theater; and Human Services into Protective, Legal, Foods, Psychological, and Welfare services.

Some categories included in one system are conspicuous by their absence in another. The U.S. Department of Labor's Dictionary of Occupational Titles, Vol. II, (1965-66) lists Transportation, not found in all systems, as one of 22 field categories. When the job content of pilots, bus drivers, and tractor-trailer drivers is analyzed, it is observed that all perform a mechanical service requiring a certain amount of hand-eye-foot coordination, spatial judgment, specialized information about the vehicle they operate, and all involve varying degrees of safety concerns for human life. These occupations are not unlike the work of a machinist who is responsible for fabricating a metal part on a metal forming machine. Transportation can be justifiably contained in the Trades category when specific job skills are taken into account. However, some may prefer to list a pilot in the Technical category, on a professional level, due to the involvement of safety to human life, the cost of the aircraft, and the prestige of his job. It was interesting to note that professional raters, rating one of the researcher's photographs that showed a trailer-truck driver operating the vehicle, rated it as a Human Service in one instance because the activity renders a service to people, in another as a Business occupation because the company is operating a business for profit, and, finally, as a Trade based on the skills required.

The D. O. T. also includes Managerial and Supervisory as a separate category. The researcher is of the opinion that managerial and supervisory jobs occur in practically all fields of employment. Managing and supervising are skills that imply, first, a certain minimum level of knowledge of the occupational area in which the supervising takes place. Again, a Managerial and Supervisory category seems to be more suitable as part of a classification system for the U. S. Department of Labor. As a career counseling field category for young people, it appears to be premature.

The number of categories, then, should be a function of the need of the instrument and a function of the categories, i.e., how they are expected to be used as communications media in counseling. Career categories should be specific enough to provide occupational direction and general enough to afford flexibility in self-exploration. Consequently, this instrument will utilize seven field categories, dividing the world of work into the following areas:

Technical - This category will contain occupations in both the design, developmental, and technical support areas and the investigative and laboratory science areas. Medically related occupations are subsumed under a separate category.

Business - This category will contain both the business contact and business detail occupations--sales and merchandizing representing the former and business analysis, accounting, finance, and clerical work representing the latter.

Human Services - (helper occupations) These deal with occupations that serve people in the legal, personal, protective, and convenience areas.

Creative - This group will include both individual and group performing arts, including such occupations as artist, sculptor, musician, and writer on one hand and theater, drama, athletics, dance, and orchestral musician on the other.

Medical - This is a separate group that could appear under science and/or human services, but one that has significant import and scope of occupational activity to be included as a separate group.

Trades - The researcher feels that the building trades, machine trades, and a variety of semi-skilled to technical level occupations in business and industry constitute a large enough segment of our world of work to warrant assigning these to a separate category.

Outdoor Occupations - These include jobs in agriculture, fishing, forestry, and numerous jobs in the natural resources area. The occupations found under this category might also have been subsumed under the Technical, Trades, Human Services, or Creative areas. Again, with the current emphasis on environmental and natural resources, it appears advantageous to include a separate Outdoor category.

The writer does not believe that all the student needs to do is choose an occupational category, relate this to a set of aptitudes and abilities, and, finally, make a life-time choice of career or job. Although this idea might have been at the core of career counseling models in the past, writers such as Ginsberg (1972, pp. 169-176) and Bysbers, Drier, & Moore (1973, All) have theorized that choosing an occupational career is a process that can undergo numerous changes during one's life time. The writer agrees with this view and sees that changing perceptions of the world of work, acquisition of skills and abilities, the influence of satisfying and dissatisfying experiences, and chance alone, which can affect the proximity of career opportunities, can have a marked affect on career determination. It is likely that students who have experienced difficulty in making career decisions after four years of college have been the victims of such changing perceptions.

Also important in the design considerations of the new instrument was the need to incorporate a sufficient number of occupational levels under each field category. Photographs representing a range of occupations should be included. Roe's two-way classification (1956, p. 151) includes six levels based on intelligence, level of responsibility, and skill required for the job. The researcher has combined these into three levels: (a) Professional-Semi-professional, (b) Technical-Skilled, and (c) Semi-skilled-Unskilled. Providing information regarding abilities, skills, and aptitudes is available, the three level classification should provide a meaningful basis for discussing college level, technical and vocational school and on-the-job training, and occupations requiring short-term training and experience to reach competency levels.

In summary, the new instrument will base its photographs on a two-way classification of seven occupational field categories and three occupational levels. The decision to use this configuration is based on subjective judgment after extensive review of classification systems in use at the present time and on the intended use of the instrument with high school students and young adults. It bears a close resemblance to Hahn and McLean's Field-Level Funnel approach (1950, pp. 75-87), Roe's two-way classification (1956), and, after combining occupational fields, to the Psychological Corporation's.

Career Planning Questionnaire (1972)

The Field Category Organization Chart (see Appendix A) is a display of the seven chosen fields. Category A and Category B designations are for convenience in illustrating that the seven major fields, in the case of Technical, Business, and Creative, could properly be subdivided into separate pairs or sub-groups. These sub-groups were utilized to provide a matrix that would serve as a guide to the kinds and number of photographs to be obtained for the instrument.

The next step in this study was to obtain photographs of occupational activity representing the chosen fields and levels. The Dictionary of Occupational Titles contain approximately 40,000 job titles, which presents an infinite number of photographic possibilities. It was obvious that constraints would have to be placed on the scope of the photographic sampling. The problem was not unlike that encountered in the construction of paper and pencil interest inventories--how many items should the instrument contain and how many items per scale and level would adequately cover the world of work? The answer had to be a practical one due to the need to observe reasonable test-taking time limits, while keeping in mind the intended use of the instrument. As mentioned earlier, the main requirement of this study was to construct an occupational survey that would provide sufficient photographic occupational stimuli to permit the subject to respond to a broad spectrum of career needs, values, attitudes, and interests.

A subjective decision was made to utilize 31 photographs, 30 depicting occupational activity in the 30 cell matrix, plus one non-occupational photograph suggesting career contemplation. In this single case, the subject is asked to describe the thoughts the person in the photograph is experiencing about his occupational future. This approach is similar to the T. A. T.'s use of the blank card. The researcher's pilot study, mentioned earlier, which included such a non-occupational photograph, suggested that the procedure was valuable in providing the subject with an opportunity to make a summary statement and to add any previously omitted information. The researcher further reasoned that because Level 3 occupations frequently do not require the specificity of work setting as Level 1 or 2 jobs, e.g., custodian, who might be found working under all seven field categories, four or five photographs would adequately cover Level 3 jobs. The subject would still have ample opportunity to express his feelings regarding level of aspiration, motivation, and job attitudes. Keeping the number of Level 3 photographs to four or five would permit the assignment of additional photographs to the trade and outdoor categories. Together, these two fields make up a large segment of job opportunities and inclusion of additional photographs seemed justified. The number in each cell of the Field Category Organization Chart indicates the number of the photograph representing that activity. Photographs are included in Appendix C.

Obtaining the Photographs

The majority of photographs were taken and processed by the researcher. Several hundred were also obtained through the generosity of various professional organizations, societies, and educational institutions. An initial screening produced 150 photographs that, in the judgment of a 10 man group of students, guidance counselors, and the researcher, clearly showed one or more people engaged in working at a job. A photograph was rejected if the opinion of the group was not unanimous. No attempt was made at this time to assign the photographs to field categories, since the main concern was to choose photographs that unquestionably showed work activity. Photographic quality, including composition, ease of identification of the subject in the photograph, and technical considerations, were also factors taken into account during the initial screening. The photographs were then prepared for field category judging.

Rather than judge the photographs himself, the researcher chose to use seven judges whose training, employment, and general expertise would provide sufficient skill in assigning the photographs to correct field categories and, finally, choosing the photographs that best represented the chosen fields and levels. Judges were contacted in person and invited to participate in the judging. A written statement, highlighting what was discussed in the initial contact, was prepared along with an Occupational Field Category Assignment Form (see Appendix B). Judges were asked to examine each of the 150 photographs and to assign them to one of the seven field categories. It was suggested that the photographs be placed in seven field category piles. Judges were then asked to re-examine the photographs in each pile and to choose the five that best represent the category and its three levels. Judges were reminded that three of the categories--Technical, Business, and Creative--were sub-divided into two sections and that attempts should be made to choose photographs that would represent these sub-divisions and their levels.

Selection of Photographs for the Instrument

The criterion for final selection of a photograph for the instrument required that:

1. A photograph be chosen as representing a given category by three of the seven judges.

2. The selection of the final 30 photographs be made from among the piles of field category piles and judged best by at least two of the seven judges.

3. Any ties resulting from this process would be decided by the researcher.

The photographs making up the photographic projective occupational survey are included in Appendix C. They were assembled in random order, numbered on the back, and identified for reference purposes accoring to field category and level. The final photograph, #31, was an exception, having been placed at the end of the sequence as a summary photograph.

The Data Gathering Process

The Samples

Three sample groups were employed to test the usefulness of the occupational survey. One consisted of 30 12th graders from Conard High School in West Hartford, Connecticut. Since 80% of all Conard graduates usually choose to pursue some form of higher education and 20% elect to seek employment or on-the-job training, it seemed appropriate to utilize a group of 24 schooling-beyond-high-school students and 6 employment-bound students. This resulted in a stratified sample and what seemed to be a more suitable 12th grade group. The 24 student group had been assigned randomly to the researcher as part of his 12th grade assignment when the students were entering Conard High School in the 10th grade. The 6 student group was randomly chosen from among 30 12th grade students enrolled in a program of diversified education. This group of students was engaged in on-the-job training in the community as well as in special classroom instruction.

The second sample group of students tested was a randomly selected group of 19 11th graders attending Springfield High School in Springfield, Illinois. The Director of Guidance at Springfield High School administered the survey following a set of printed instructions. (see Appendix E, Exhibit 1).

The third, and final group, consisted of 40 employed and unemployed adults who had completed their high school education. The researcher is aware that this group can hardly be considered a random sample of adults in the State of Connecticut or even in a small community. The goal was to select a cross-section of adults being reasonably confident a useable sample of occupational fields and levels would be obtained. It is the researcher's opinion that such a cross-section was obtained. A list of the occupations sampled is included in Appendix D.

Except for the Illinois sample, all surveys were administered by the researcher at individual sittings with each subject. Testing sessions lasted one hour, although variations from 45 minutes to one hour and a half were observed.

Obtaining the Data

Before starting the survey, all subjects supplied answers to the items requested on the Subject Personal Data Form (see Appendix E, Exhibit 2). Answers were written in by the examiner. The subject was then instructed on taking the survey following the Instructions For Administering the Pictorial Occupational Survey (see Appendix E, Exhibit 1). In the majority of cases it was found necessary to repeat or clarify the instructions pertaining to what information the subject was expected to provide. If the subject omitted reference to "how satisfied is he with what he is doing?" the subject was reminded to supply the information. Generally, this process was found unnecessary after the presentation of four or five photographs. In instances where the subject provided relevant but unclear or incomplete information, and it would appear that further significant clinical material could be forthcoming, the subject might have been asked, "Would you care to tell me a little more about how the worker feels about what he's doing?" All responses to the survey, to the extent possible, were recorded verbatum along with any significant observations regarding the way in which the survey was being completed. These included signs of anxiety, laughter, surprise, and excessive time to respond. Responses were recorded on the Protocol Report Form. (see Appendix E, Exhibit 3).

Clinical Interpretations of Individual Protocols

The data of a projective technique can be presented in a variety of ways; there are two prominent ones. It can take the form of a clinical evaluation of the entire protocol, as it does with the T. A. T., to which the clinician brings his observational, inspectional, intuitive, and interpretive expertise to bear on what the subject said and what it means. Or, it can take the form of a numerical, percentage summary as it does with the Rorschach. At this stage of development the latter approach seems premature to the researcher. Identifying and counting the positive, neutral, or negative values of responses to career feeling, or assigning values to fine shades of meaning of career attitudes will require considerable further study. The following examples of responses will illustrate the point. Two subjects respond to a photograph of a chemist working in a laboratory. One replies, "This is a chemist. He did well in science courses in high school and thought he would study chemistry. He likes what he is doing and will stay in chemistry." The other replys, "This is a chemist. He did well in science courses in high school, especially chemistry. He enjoys conducting laboratory experiments, probing the unknown, and the idea of possible discovery. He looks forward to going to work everyday to continue where he left off the day before. There is no question in my mind he will continue in chemistry." Both statements are positive. What normative value should be placed on the statements? Is one better than the other? How much better is one than the other? After considerable deliberation, the researcher elected to use a clinical, judgmental approach to the interpretation and evaluation of the protocols rather than a normative one.

CHAPTER V

TREATMENT OF RESULTS AND FINDINGS

When all the data had been collected, a total of 89 high school students and adults had responded to the Photographic Projective Occupational Survey. This group consisted of 19 grade eleven students attending Springfield High School in Springfield, Illinois; 30 seniors attending Conard High School in West Hartford, Connecticut; and 40 Connecticut adults representing a broad cross-section of the world of work with respect to occupational fields and levels.

The Judges

Clinical judgments of the protocols were supplied by three committees consisting of three judges each. Each committee member had the expertise in counseling psychology, social psychology, or career planning to be considered qualified to make such clinical judgments. Except for the researcher, who served as one member of each committee, and a career counselor with extensive experience in career counseling, all were holders of doctoral degrees. Although the entire group of 40 adults and 30 12th grade students were evaluated by one and the same committee, three different committees were required to complete all the evaluations. A total of seven different judges composed the three committees.

The Evaluation Process

The judges' main task was to review the recorded responses to the occupational survey and to ascertain, in the case of the two high school samples, whether or not the responses support students' expressed and measured interests. Expressed interests were obtained by asking each student to examine the twenty career clusters making up the Career Planning Questionnaire (The Psychological Corporation, 1972) and to choose the three, in order or preference, that most likely represent his career field choices. Measured interests were obtained from responses to the Kuder Preference Record, Form CH (1964). In the case of the adult sample, the judges were to ascertain whether or not the employed or unemployed adults' present or intended employment corresponds to the career fields suggested in the responses to the occupational survey. For both the high school and adult samples, the judges were also expected to identify occupationally related material such as needs, drives, aspirations, and values that could be useful in career counseling situations.

In arriving at their assessments, the judges agreed to examine the responses to the occupational survey and, using the Student and Adult/Employed Protocol Evaluation forms (Appendix F) and discussing each item on the form individually, to reach a committee agreement for each item. At the outset of the committee deliberations, it was decided that a two-out-of-three agreement would constitute the opinion of the committee. Except in several isolated instances, the judgments of the committee were unanimous. This was made possible through lengthy discussion of the data which facilitated the clarification of the contents and the meaning of the material. The procedure frequently led to new insight for the committee as a whole and assisted in achieving nearly unanimous agreement.

The results of this study will be presented in an expository manner, following the format of the two evaluation forms included in Appendix F. The high school samples will be dealt with first, followed by the adult group. Since the comparing criteria for both groups were different, different evaluative procedures were used to test the hypotheses stated at the outset of this study. These will be discussed at an appropriate time during the review of results for each sample group.

High School Sample Group Results--Grade 11

The 11th grade sample consisted of 19 students from Springfield High School located in Springfield, Illinois. The student population at Springfield High is representative of a cross-section of income brackets with the majority coming from a middle to higher socio-economic level. Sixty to 70 percent of its students continue their education beyond high school. Approximately 10 percent of its population consists of minority students. The present sample of 19 students is a representative group of the Springfield High population.

Analysis of the 11th Grade Data[1]

1. The subjects' perceptions of the work being performed in the

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[1] Reference to the Student or Adult/Employed Protocol Evaluation Form is recommended when reviewing the results of this study. See Appendix F.

photographs were rated as "of limited accuracy," "moderately accurate," or "very accurate." In three of the cases, perceptions of what was taking place in the photographs were rated as "of limited accuracy." Thirteen were rated as "moderately accurate" and 3 were rated "very accurate." Accuracy was considered an important ingredient in this study since projections, it was felt, would rest on accurate knowledge of the world of work. What degree of accuracy should be expected from a group of grade 11 students responding to a structured photographic occupational survey is unknown. However, these results raise some question about students' responses to paper and pencil interest inventories where the verbal connotation is possibly more ambiguous.

2 and 3. The hypothesis to be tested with respect to expressed and measured interests was stated as, "There is no significant difference in measures (ratings) between the stated and/or measured (Kuder) career field choices of a random group of eleventh graders and the judgments of professional raters regarding occupational field category choices as inferred from responses to theproj ective occupational survey." Items #2 and #3 on the Student Protocol Evaluation Form ask for a comparison of interpreted protocol interests with the student's expressed and measured interests. After attempting to interpret several protocols, it became evident that it would be difficult to arrive at a meaningful assessment of the degree of success or failure resulting from the committee's deliberations. One student might have

chosen three expressed career field categories while his protocol interpretations suggested one career field category. Only one of his expressed career field choices could agree with his one protocol career field category. Another student, with three expressed career field choices, might have produced a protocol also suggesting three career fields, but where only two of the protocol career fields agreed with the expressed career fields. It was obvious that a 'support' or 'success' weighting system would have to be developed if any consistency in reporting results was to be achieved. A solution to the problem appeared to lie in the application of a formula that would yield a weighted support score.

$$Ss = \frac{PI \times C}{EI} \qquad \text{(weighted formula)}$$

Where PI is the number of protocol interests identified by the judges.

EI is the number of expressed interests.

C is the number of expressed interests agreeing with the protocol interests.

The same formula was used to analyze measured interest results except that MI was substituted in the denominator for EI. In order to show the affects of non-weighting, an analysis of the Cs versus the PIs was also performed. In this case SS = C. This solution appeared to be a valid one except that there was objection to the fact that students were asked to choose three expressed career fields, while the number of protocol interests could vary beyond three--possibly four or five.

The restricted range of expressed interests compared with an unrestricted range of protocol interests was considered as possibly presenting a distorted view of the successes. Consequently, it was agreed that the number of expressed career field choices would remain at three but that the judges would identify up to as many as three protocol career field interests. The highest three measured (Kuder) interests would be used in the analysis. The committee was confident that this procedure, along with the statistical treatment to be discussed below, would provide a meaningful analysis of the amount of agreement between protocol and expressed interests and a test of the above hypothesis. An Evaluation Summary Work Sheet (Appendix G) was produced for each student to facilitate the analysis.

Using the above formulas, the 11th grade data produced four pairs of scores for each student.

a pair based on unweighted expressed interests (SS) versus the number of protocol interests.

a pair based on unweighted measured interests (SS) versus the number of protocol interests.

a pair based on weighted expressed interests (SS) versus the number of protocol interests.

a pair based on weighted measured interests (SS) versus the number of protocol interests.

Consequently, the 19 pairs of scores produced two series for each of the above four categories.

Since these pairs were obtained from the same students, an assumption was made that these scores are comprised of related measures. An appropriate formula was chosen that would deal with the difference for each pair of measures so that "we may determine whether or not the mean of the distribution (the mean difference) differs significantly from zero." (Lindquist, 1940, pp. 58-59).

$$t = \frac{M_O - M_H}{\sqrt{\frac{\Sigma d^2}{n\,(n-1)}}}$$

Examination of Table 1 reveals that interpreted protocol interests do not correspond to a significant degree with unweighted or weighted expressed and measured interests as judged by a panel of experts participating in this study. With the exception of the unweighted-expressed category, all t's were significant beyond the .01 level of confidence. The unweighted-expressed category was significant beyond the .05 level of confidence. Differences as large as these very likely did not occur by chance. Determination of what they 'should be' is beyond the scope of this study. If it were possible to ascertain the magnitude of such differences, it would be necessary to be able to determine the excellence of the three measures used. Which of the three measures of interest is best--expressed interests, measured interests, or interpreted protocol interests--indeed, requires further investigation. It is interesting to note that weighting places a stringent

Table 1

Summary of "t" Test Analysis Comparing the Relationship Between Unweighted and Weighted Expressed and Protocol Interests and Between Unweighted and Weighted Measured and Protocol Interests for a Group of 11th Grade Students

Category	Unweighted	Weighted
Expressed Interests	2.344	6.603 *
Measured Interests	3.653 *	7.099 *

* Significant beyond the .01 level. d.f. = 18. Significance at the .01 level is 2.878.

demand on the data since it increases the possibility of expanding the amount of correspondence error. Measured interests, both unweighted and weighted, exhibit a greater amount of divergence from interpreted protocol interests than do expressed interests. Dissimilarity is also noted between expressed and measured interests for both the unweighted and weighted categories.

In spite of the observed differences, it is the opinion of the researcher that substantial agreement exists between estimated, measured, and protocol interests. The overall mean success for Table 2 exceeds 68%, (see note), when the mean of the four cell means is divided by the protocol series mean of 2.16. The proportion of successes for the estimated and measured unweighted series and the estimated and measured weighted series are .825, .708, .644, and .579, respectively. The researcher feels that the lack of an exceptionally high degree of agreement may be of significant import in connection with the use of projective devices in career exploration. If the relationship were found to be exceptionally high, some investigators might question the need for such a new device when conventional methods could yield the same results. If the relationship were too low, the use of projective devices could be suspect.

Note--Since this mean is the average of several dissimilar characteristics, it is a crude average. It is used only to indicate the general trend of the data and is not to be employed in any further calculations.

Table 2

Means for Unweighted and Weighted Expressed and Measured Interest 'Support Scores' for a Group of 11th Grade Students

Category	Unweighted	Weighted
Expressed Interests	1.79	1.39
Measured Interests	1.53	1.25
Protocol Interests	2.16	----

Note--N = 19. The maximum possible mean score in each cell is 3.00.

One possible explanation for the observed differences may be that what a student values, feels the need for, aspires to, and expresses an interest in when he responds to an occupationally oriented stimulus, may not be the same as when he responds to a paper and pencil occupational inventory or when he is asked to express his interests. It was pointed out in Chapter I of this study that young people, including those in their freshman year in college and many about to earn their degrees, have difficulty in bringing their college majors and their career fields into clear focus. The divergencies in these data may be further evidence of the validity of these observations. One wonders which careers were eventually found appropriate and how these students might have responded to a projective occupational survey in the midst of their dilemma.

Based on the statistical measures employed, Hypothesis 1 is rejected.

4. Since all the subjects had chosen three expressed interests and exhibited at least one significant Kuder interest category, it did not appear necessary to deal with this item analytically. No protocols displayed a total absence of possible career interest.

5. Except for one case that did not suggest a clear cut occupational level preference, the remaining 18 were nearly equally distributed between the Technical-Skilled and Professional-Semi-professional levels. None of the protocols suggested a Semi-skilled-Unskilled level. Such preference levels were not surprising. In most cases, responses

to photographs suggesting unskilled work were viewed as part-time jobs or jobs just to earn money for school. Very few responses had the worker remaining at the job unless he became the manager or learned a more challenging job in the company.

6. Ten out of 19 students exhibited a sufficiently high interest readiness for decision making purposes. The remaining nine showed the tendency throughout their protocols to use such terms as maybe, perhaps, I think, probably, or I don't know when referring to how the situation will turn out.

7. Twelve of the 19 students showed no anxiety or confusion in their responses. The remaining seven expressed feelings of being pushed, family pressure, father influence, inability to use their own judgment, and poor treatment by the employer.

8 and 9. Hypothesis 4 states that "The responses to the projective occupational survey will reveal concerns of the subject such as values, needs, motives, attitudes toward work, and goals that will be useful information in assisting the subject in career planning." Table 3 shows their main concerns to center around the well-being of others, contact with people, economic security, creative activities, and the desire for promotional opportunities. Every student is represented in Table 3. Two of the students (k.) expressed concern for work conditions, boring activities, hours of work, and the work environment. It was the unanimous opinion of the committee that the perceptions supplied useful career-related information that would not normally have been supplied by responses to paper and pencil interest inventories. As

Table 3

Summary of Committee Judgments of Sub-Items, Item #8, of the Student Protocol Evaluation Form-Grade 11

Sub-Items	No. of Subjects
a. Concern for well-being of others	10
b. Desire to deal with people, for broad people contact as opposed to a solitary, confined or limited people contact occupation.	11
c. Economic security and/or economic achievement.	11
d. Desire for a leadership role.	1
e. Desire for responsibility and decision making opportunities	3
f. Desire to work with and explore the unknown (space, physical phenomena, philosophy, human behavior, composition of matter, etc.).	2
g. Desire for promotional opportunities.	7
h. Desire to work or deal with systems, organization, order in management and operations.	5
i. Desire for ownership.	5
j. Concern for creative activities, beauty, shape, form, sound, harmony of ideas, expression of ideas.	8
k. Other ____________________ ____________________	2

N = 19

stated earlier, the test of this hypothesis would rest on the opinion of the judges. Consequently, the hypothesis is accepted.

High School Sample Group Results-Grade 12

The 12th grade sample consisted of 30 students from Conard High School located in West Hartford, Connecticut. Conard High has a student population of 1400 grade 10 through 12 students. It is one of two similar high schools located in West Hartford. The population of the community is 70,000 and is considered by many to be an affluent residential area where many of the Hartford, Connecticut executives live. Approximately 80% of Conard students attend some form of higher education upon graduation. The remainder seek employment, on-the-job training, or enter the armed forces. It was mentioned earlier that because of this proportioning, the sample would consist of a random group of 24 higher education-bound and 6 work-bound students.

Analysis of the 12th Grade Data

1. For all practical purposes, the 12th grade sample resembles the 11th grade sample quite closely with respect to accuracy in identifying the job being performed in the photograph. Seven were rated as "of limited accuracy," 17 "moderately accurate," and 6 "very accurate." In view of the limited contact with the world of work, the lack of precision is not surprising. Answers like the following were not uncommon--a soil tester seen as a farmer, an accountant as figuring something, a milling machine operator as making something, an electronics technician as putting something together, or a photo lab

technician a lab job. These results are quite different than the adult results to be discussed later where only 1 of 40 adults was rated as "of limited accuracy" and 19 were rated as "very accurate."

2 and 3. Examination of the 12th grade data in Table 4 suggests a striking resemblance to the 11th grade data. The "t" tests of the differences for all categories--unweighted expressed and measured interests versus protocol interests and weighted expressed and measured interests versus protocol interests--are significant at beyond the .01 level. Unweighted and weighted expressed interests continue to show more agreement with protocol interests than unweighted and weighted measured interests. The mean success for Table 5 is 71% (see note), when the mean of the four cell means is divided by the protocol series mean of 2.87. The proportion of successes for the estimated and measured unweighted series and the estimated and measured weighted series are .756, .686, .732, and .652, respectively.

Table 4

Summary of "t" Test Analyses Comparing the Relationship Between Unweighted and Weighted Expressed and Protocol Interests and Between Unweighted and Weighted Measured and Protocol Interests for a Group of 12th Grade Students

Category	Unweighted	Weighted
Expressed Interests	5.481 *	6.092 *
Measured Interests	6.498 *	8.755 *

* Significant beyond the .01 level. d.f. = 29. Significance at the .01 level is 2.756.

Note--As in Table 2, this is a crude average and should not be used in further calculations.

The "t" test results suggest that the differences are more significant for the 12th grade sample than for the 11th grade sample, although the four cell average mean was 3 percentage points higher for the 12th grade sample. In spite of the fact that the two high school samples did not come from the same population, it does not seem unreasonable to the researcher to expect that one year of growth, increase in knowledge, and learning about jobs would show less difference between expressed, measured, and protocol interests. Apparently this is not the case. As it was suggested in the discussion of the 11th grade data, high school students probably do not achieve a firm grasp on career identification until they reach their adult years. Support for this conclusion will be presented in a discussion of adult results in the following section.

Due to the significance of the differences, Hypothesis 2 is rejected.

4. As in the 11th grade sample, all students had stated three expressed interests and had at least one significantly high measured (Kuder) occupational field. It did not appear necessary to deal with this result analytically.

5. Two-thirds (20) of the students had projections that leaned in the direction of Professional-Semi-professional pursuits. One-third (10) appeared to fall into the Technical-Skilled category. None fell into the Semi-skilled-Unskilled category. These results are similar to the 11th grade results and may reflect the wishful thinking and naivate of high school students.

Table 5

Means for Unweighted and Weighted Expressed and Measured Interest 'Support Scores' for a Group of 12th Grade Students

Category	Unweighted	Weighted
Expressed Interests	2.17	2.10
Measured Interests	1.97	1.87
Protocol Interests	2.87	----

Note--N = 30. The maximum possible mean score in each cell is 3.00.

6. Twenty students exhibited a sufficiently high level of interest readiness for decision making purposes, while 10 reflected immaturity and indecision. This result is substantially higher than the 10-9 proportion of the 11th grade group.

7. Unlike the 11th grade sample, this group contained a low number of students (2 out of 30) who exhibited some form of expression of anxiety, confusion, or heightened concern about their occupational future. There were indications of worry, pressure from parents, or signs of discouragement. Although this item was not intended to identify students with serious personality disorders, it was hoped that it would identify students with occupational anxieties who would have to deal with such material before reaching a state of readiness to make occupational decisions.

8 and 9. Hypothesis 4 was stated as, "The responses to the projective occupational survey will reveal concerns of the subject such as

values, needs, motives, attitudes toward work, and goals that will be useful information in assisting the subject in career planning." Every one of the students is represented in Table 6 at least once. With the exception of reversal of positions, the top most frequently referred to items are the same as those for the 11th grade group. Twenty-five of the students had concerns for creative activities. Twenty-four expressed the desire to deal with people and for broad people contact as opposed to confined or solitary activities. Twenty exhibited a concern for the well-being of others. Eighteen were concerned with economic security and economic achievement. The final top group (16) expressed the desire to explore the unknown. Category k, Other, contained 10 students who referred to such topics as home pressure, working hard, excitement, the use of hands and language and mathematics skills, faith in self, self-satisfaction, intelligence, status and accomplishment, and orderliness. The committee was impressed with the occurrence of these concerns as themes that would appear throughout the entire protocol. There appeared to be no doubt that the students' perceptions supplied useful career-related information that would not normally have been supplied by responses to paper and pencil interest inventories. The committee unanimously accepted Hypothesis 4.

Adult/Employed Sample Group Results

As shown in Appendix D, the Adult/Employed group consisted of a modified, stratified sample of adults who were employed, unemployed,

Table 6

Summary of Committee Judgments of Sub-Items, Item #8, of the Student Protocol Evaluation Form-Grade 12

	Sub-Items	No. of Subjects
a.	Concern for well-being of others	20
b.	Desire to deal with people, for broad people contact as opposed to a solitary, confined or limited people contact occupation.	24
c.	Economic security and/or economic achievement.	18
d.	Desire for a leadership role.	8
e.	Desire for responsibility and decision making opportunities	8
f.	Desire to work with and explore the unknown (space, physical phenomena, philosophy, human behavior, composition of matter, etc.)	16
g.	Desire for promotional opportunities	9
h.	Desire to work or deal with systems, organization, order in management and operations.	13
i.	Desire for ownership.	9
j.	Concern for creative activities, beauty, shape, form, sound, harmony of ideas, expression of ideas.	25
k.	Other____________________	10

N = 30

or, having completed high school, were contemplating some form of continuing education. Eleven of the 40 adults were clients of the Y. M. C. A. Counseling Center located in Hartford, Connecticut. Several were self-referrals and others were referred by their employer or by the Veterans Administration for testing and career counseling. Of the 40 subjects, 31 were presently employed and 9 were unemployed. Eight of the unemployed group were Y. M. C. A. clients. All eight were intending to pursue additional education in non-degree granting institutions, colleges, or graduate schools.

Analysis of the Adult Data[1]

1. As was the case with the high school samples, the subjects' perceptions of the work being performed in the photographs were rated for accuracy. One case showed "limited accuracy." Twenty were rated "moderately accurate" and 19 of the 40 cases were rated as "very accurate." That all but one client possessed at least moderately accurate knowledge of the job activities was not surprising. All were adults with some work experience with an opportunity to observe and learn about the work experiences of others. As a group, the adults responded to the photographs with less hesitation and with more accurate detail about what was taking place on the job than did the high school groups.

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[1] See Adult/Employed Protocol Evaluation Form, Appendix F.

2. The hypothesis to be tested with respect to the Adult/ Employed sample (Hypothesis 3) was stated as "There is no significant difference in measures (ratings) between the career fields in which random groups of adults are actually employed or anticipate employment and the judgments of professional raters as to which career fields these may be as inferred from responses to the projective occupational survey." Items 2 and 4 of the evaluation form supplied the data for the test of this hypothesis. In considering the data of the unemployed subject, protocol interpretations were compared with stated or intended career goals reported on the Subject Personal Data Form. An analysis of the data resulted in 32 "successes" and 8 "misses" out of a total sample of 40 adults. That is to say, the judges' assessments of career fields as interpreted from the projections in the survey were in agreement with the subject's present employment or, if not employed, his intended career field goals in 80 percent of the cases. The 8 "misses" had the following characteristics:

No. of Cases

(2) The protocol data neither supported nor opposed the subject's present employment or intended career goals. There were no indications the subjects intended to change their career goals.

(3) The protocol data opposed the present employment of the subjects. One had no intention of changing his career goal. The remaining two were very dissatisfied with

their occupations, but had no idea what they would like to do.

(2) Although the judges were able to infer career field options from the protocol material, neither of the two were able to state a career goal. One subject was very dissatisfied with his present employment and the other was moderately satisfied.

(1) Although the subject stated several career field interests, the judges were unable to find support evidence of these in the protocol data.

It was noted that in five of the above eight cases, the judges arrived at conclusions that suggested the possibility of low interest readiness or conflict and anxiety (items 6 and 7).

In a discussion of the standard error of a percentage, Garrett (1947) raises the question "Given the percentage occurrence of an attribute, the question of how much confidence we can put in our figure often arises. How realistic an index is it of the incidence of the phenomenon in which we are interested?" (p. 218). The question in this study corresponds to Garrett's and is seen to be "What confidence can be placed in the 80 percent success figure as representing a phenomenon that is apt to occur in future similar samples?" The formula (in Garrett, 1947, p. 219) below was supplied in order to obtain a standard error of a percentage for the 80-20 percent relationship.

$$S_{\%} = 100\sqrt{\frac{p\ (1-p)}{N}} = 6.3$$

Limits of 96.3 and 63.7 were obtained at the 1% confidence level (80 ± 6.3 x 2.59). With repeated similar sampling and utilizing the procedures of this study, the chances are 1 in 100 that the percentage of 'successes' would fall outside these limits. It is the researcher's opinion that it is unlikely that the 80 percent 'success' achieved in this study is a chance deviation from outside these limits.

The 80 percent 'success' result was analyzed with reference to Clopper and Pearson's "Confidence Belts for Proportions" for a confidence coefficient of .99.[1] Limits of 94 and 58 percent were obtained by inspection of the charts which, in the opinion of the researcher, are quite close to the 96.3 and 63.7 limits obtained using the above formula.

Using the obtained standard error, in this case a proportion of .063, the departure from a pure guess (.80-.50 = .30) is 4.76 (.30 - .063), or 4.76 times its standard error. The chances of a one direction departure from a hypothetical .50 exceeds 1 in 100,000. It is unlikely such a difference occurred from an equally divided population.

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[1] The reader is referred to Sprowls, R.C. Elementary statistics: for students of social science and business. New York: McGraw-Hill Book Company, Inc., 1955, p. 98-104, for a discussion and application of the confidence coefficient. Confidence Belts For Proportions may be found in Dixon, W.J. & Massey, F.J., Jr. Introduction to statistical analysis. New York: McGraw-Hill Book Company, Inc., 1951, p. 323.

[2] For a discussion of the rationale used in this and the chi-square, see Guildord, J.P. Fundamental statistics in psychology and education. New York: McGraw-Hill Book Company, Inc., 1942, pp. 164-173.

A chi-square analysis of the .80-.20 relationship was completed testing the hypothesis that the obtained proportions were obtained from a population whose actual division of 'successes' and 'misses' is .50-.50. The chi-square obtained is 14.4. With one degree of freedom, the result supports the above analysis as exceeding the 'very significant' (1%) level. The null hypothesis in this test is rejected.

In view of the results obtained in the above analyses, the researcher accepts the hypothesis as stated in Hypothesis 3. The net effect of these analyses provide strong support for a conclusion that, utilizing the occupational survey as it was used in this study, protocol interpretations of projected career fields show substantial relationship to an adult's present or intended career field.

3. No test of previous employment was proposed at the outset of this study. This question was included to examine the occupational mobility of the subjects. Thirty of the 40 subjects had had previous employment experience. It was interesting to note the tendency of this group to maintain a similar field identity. The judges rated 22 of the 30 as presenting protocols that supported the career fields of the previous employment. However, there was some indication of an upward mobility in career preferences. Six protocols were judged as opposed to previous employment and two were judged as neither supporting nor opposing previous employment.

4. Of the nine unemployed subjects' protocols, eight were judged as suggesting a career direction and one as suggesting no career direction at all.

5. Of the 40 protocols, 25 showed a strong tendency toward a Professional-Semi-professional career level and 15 exhibited Technical-Skilled preferences in their responses. Only one subject was judged to prefer Semi-Skilled-Unskilled level work. There is a suggestion here that even though employed people are reasonably satisfied with their work and do not intend to seek other career employment, there is a desire for upward mobility.

6. Of the 40 subjects, 33 showed a readiness for career decision making. The remaining seven did not exhibit such readiness, suggesting a lack of interest maturity, and/or realistic perceptions of themselves--their skills, aptitudes, and values. Four of the eight 'misses' mentioned earlier were judged as showing signs of career conflict, anxiety, and confusion. This group constitutes nearly half of the nine cases in item #7 below.

7. Nine subjects exhibited noticeable evidence of career conflict, anxiety, or confusion over their occupational future.

8. Hypothesis 4 of this study stated "The responses to the projective occupational survey will reveal concerns of the subject such as values, needs, motives, attitudes toward work, and goals that will be useful information in assisting the subject in career planning." This hypothesis was not subjected to statistical treatment but rather to inspection by the judges. Table 7 is a summary of these judgments.

It was the unanimous opinion of the three judges that each of the 40 protocols revealed evidence of related and useful information that

Table 7

Summary of Committee Judgments of Sub-Items, Item #8, of the Adult/Employed Protocol Evaluation Form

Sub-Items	No. of Subjects
a. Concern for well-being of others.	22
b. Desire to deal with people, for broad people contact as opposed to a solitary, confined, or limited people contact occupation.	37
c. Economic security and/or economic achievement.	27
d. Desire for a leadership role.	16
e. Desire for responsibility and decision making opportunities.	26
f. Desire to work with and explore the unknown (space, physical phenomena, philosophy, human behavior, composition of matter, etc.).	7
g. Desire for promotional opportunities.	18
h. Desire to work or deal with systems, organization, order in management and operations.	15
i. Desire for ownership.	7
j. Concern for creative activities, beauty, shape, form, sound, harmony of ideas, expression of ideas.	23
k. Evidence of career satisfaction, but job satisfaction is questionable.	3
l. Contemplating job change.	6
m. Other. (religious motive)	3

could assist the subject and the counselor in career decision planning. This information was in addition to specific career field information and included attitudes, goals, values, and non-career field preferences. All 40 of the subjects were judged as having responded to at least one of the sub-items and in some cases, as many as six were checked. The judges were confident that such information could not have been obtained from standard paper and pencil interest inventories. Sub-item (b) was checked for all but three subjects. This sample apparently felt a strong need for people contact in their occupational involvement which, because of the fewer checks to sub-item (a), may not necessarily mean the same as concern for the well being of others--altruism and people affiliation are likely to have different meanings. The second most frequently checked sub-item was (c) a concern for economic security. There were themes relating to retirement among some of the older subjects. The desire for responsibility and decision making opportunities was next in order with 26 subjects responding in this direction. Creative activities was fourth with 23 and the concern for the well-being of others was fifth with 22. Over half of the subjects responded to the photographs in such a way that their feelings and attitudes were categorized as falling in at least five of the 13 sub-items.

It was apparent to the committee that only a portion of the feelings and attitudes revealed in the protocols is represented in the sub-items of item #8. Signs of aggression, dominance, drive, tenacity, precision, and submissiveness were observed. Subjects were apt to respond not only to the career overtones of the photographs, but to matters in sharp focus or highly differentiated for them at the moment. Two examples may serve to illustrate the point. Subject #36 had been a successful salesman for nearly a year. He was satisfied with his salary and enjoyed certain intrinsic rewards encountered in his job. He had no intention of changing jobs. However, there were ethical conflicts between himself and his employer and he found himself out of work. His response to the first photograph, which depicts an electronic technician at work was; "He's making electrical repairs--a tape recorder--gone to technical school at least two years. This requires knowledge. Close to home. Involved in what he's doing. He'll stay as long as they treat him fairly." None of the other 39 subjects felt the need to refer to fair treatment, but #39 did. In response to photograph #4, a darkroom employee, he observed, "She looks like an x-ray technician--checking an x-ray--happy, smiling. By starting in the nursing field, got involved in x-ray. If treated properly, she'll stay."

Subject #36 was a middle-aged former clergyman who had not achieved ordination and was now employed in a semi-professional business detail occupation. He was referred for testing and counseling by his company who thought he might serve more effectively in some other capacity. In a conversation about his background, he related strong feelings about his high regard for his father's success as a president of a small Christian college. He spoke of the high hopes his father had for his success. In response to photograph #2, which, coincidentally, depicts a clergyman having a conversation with a younger man, he replied, "A counseling situation-priest-his background is the main factor in his going into the priesthood..." Photograph #5 shows a school teacher in front of her class. Among other things, #36 replied, "She was influenced by a very important person-following in that person's footsteps." In responding to the accountant in photograph #11, he said, "Dad owns the business." Photograph #15 was seen as two surgeons "Woman a surgeon--father a surgeon--she wanted to become one as well." Extrinsic motives and strong father affiliation are suggested as playing an important role in the subject's career identification.

The effects of responding to the Pictorial Occupational Survey were not always immediately apparent. The usual expectations center around obtaining career related information during the interpretation of the protocol. However, in two instances during counseling following testing with Y.M.C.A. clients, clients spoke about the testing experience with the new instrument as "helping to put it all together about themselves" and as "giving them a better look at themselves." The residual, quasi-therapeutic effect is only suggested at this time, but undoubtedly warrants further study.

In view of the above observations, the committee was of the opinion that hypothesis 4 was adequately demonstrated to warrant its acceptance.

Summary

One group each of 11th and 12th grade students and adults were the subjects in this study. Four hypotheses dealing with the new instrument's ability to identify students' expressed and measured interests and adults' present or intended career choice and to reveal additional occupationally related data that could be useful in career planning were tested. The results showed a statistically significant difference between interpreted protocol results and students' expressed and measured interests. In spite of these differences, it was pointed out that the series means of expressed and measured interest identification successes showed a substantial relationship to protocol series means. The proportion of successes was approximately 70%. These results were constant whether an unweighted or weighted formula for success was employed. Hypotheses 1 and 2 were rejected.

Adult results, on the other hand, showed an 80% agreement between protocol interpretations and the adults' present or intended employment. Such a departure from a .50-.50 hypothetical result was found to be statistically very significant to have occurred by chance. Hypothesis 3 was accepted.

There was unanimous agreement among the members of the committee that protocol responses supplied a substantial amount of related occupational material that could be useful in career planning. Hypothesis 4 was accepted for all three sample groups.

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CHAPTER VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Science, it seems to the researcher, is constantly attempting to seek out new ways of achieving its goals--through the development of new hypotheses, new tools, and new processes. The area of career interest identification and career planning has been no different. For over 60 years, certainly since the days of Parsons in 1909, counseling psychologists, industrial psychologists, and career counselors have been concerned with the identification of those human attributes which, if acted upon or exploited, could lead to increased occupational success and satisfaction, not to mention the savings in time, money, and anxiety over one's future. The works of Parsons, Strong, Kuder, Holland, McClelland, Roe, Super, and Murray figure prominently in the review of the literature of this study. On the high school, college, and pre-employment levels, and occasionally in business and industry, when interest measurement is conducted, the focus has been on published paper and pencil interest inventories. On the college level, but more frequently in business and industry, psychologists have experimented with the Rorschach and Thematic Apperception Test to ascertain personality types and to relate these findings to success in certain job assignments or careers. The results on the pre-employment level with paper and pencil inventories are mediocre, as suggested in Chapter I by the questionable career decisions still being made by young people.

How many students complete interest inventories before making career decisions and are guided by their results is unknown. In spite of the progress that has been made, industry and business results are sporadic and diffuse and a cohesive plan of action in the area of research and use of the results is difficult to pin-point.

It seemed to the researcher that a projective device, to do for career interest assessment and career planning, what the Rorschach and Thematic Apperception Test have done for personality assessment and personality adjustment, would be a useful tool to the counseling psychologist. The purpose of this study, as stated in Chapter I, "was to create a pictorial device that could be used as a career preference data gathering tool and to ascertain its usefulness in career planning situations." In order for the instrument to be useful it would have to stimulate perceptions of the subject that would reveal his needs, drives, motives, aspirations, and specific career interests.

A photographic, projective instrument, consisting of 31 occupationally related photographs, based on seven major career field categories, was created. The appropriateness of a photograph to be included in the instrument was judged by a panel of professionals in the fields of social and counseling psychology and career planning.

Three sample groups were used to test the effectiveness of the instrument--one group each of 11th and 12th grade students and a group of adults. The students' expressed and measured interests were compared with the protocol interpretations by a panel of judges. The adults' present or intended employment fields were also compared with the protocol interpretations. A panel of experts interpreted the protocols and judged the extent to which the protocol career fields indicate correspondence with the students' expressed and measured interests and with the adults' present or intended career choice. Judges were also asked to identify any career related material that could be useful in career planning situations such as drives, needs, goals, and aspirations.

Conclusions

It was indicated in the body and summary of the previous chapter that the results of the statistical treatment of the data showed significant differences between the expressed and measured interests and the interpretations of the protocol data for both the 11th and 12th grade samples. In spite of these differences, there appeared to be approximately 70% agreement between expressed and measured and interpreted protocol interests. It was suggested that the lack of statistical similarity may be due to the differences in meaning--a mental image of a vocation or its written title may have for a student when compared with his inner feelings or perceptions about the job when he responds to a photographic stimulus. Some of the discrepancy might be due to a lack of job knowledge. Unlike the adults, the great majority of high school students were rated as moderately accurate or of limited accuracy when judged on whether or not they knew what was actually going on in the photographs. The adult group was also judged as showing more readiness and interest maturity for career decision making purposes as well as less anxiety and confusion about their career preferences.

It is the opinion of the researcher that the high school results raise some serious questions about the readiness of this segment of our population to make sound career decisions. Some students are very perceptive about the world of work and their possible place in it. Others are vague, confused, and uninformed. The use of the new instrument, then, can confirm what appear to be sound decisions. Armed with this knowledge and greater confidence, the student can take firmer steps toward goal directed activity and get under way. Or, when conflict or confusion are evident, the counselor can encourage the student to explore other options, to review his values and aspirations, and to engage in a more thorough examination of himself. This is probably what counselors attempt to do when conflict between expressed and measured interests is detected. These are not uncommon among high school students. Differences between expressed and measured interests were revealed in this study. But, the researcher has found no better way to deal with the 'whys' of the matter than to examine the contents of the protocol with the student--photograph by photograph if necessary. Although time consuming, the researcher has found this process to be an excellent way of communicating with students and parents in career planning situations.

The results of the analyses for adults, on the other hand, showed an 80% agreement between their present or intended career choices and the interpreted protocol results. Adults appeared to be more knowledgeable about the world of work, had reasonably firm career preferences, and exhibit less anxiety and confusion about their career plans. Their perceptions were more vivid and came into sharper focus than those of high school students. When tensions and anxieties were detected, they usually referred to problems associated with time to pursue a career, the lack of funds to pay for retraining, and certain family constraints. Material dealing with career satisfaction versus job satisfaction is detected occasionally. It is not unusual to read a protocol with strong career satisfaction indicators, but to find that the supervisor and the client do not get along, or where he does not have enough time to complete his work, or he does not derive the feeling of being appreciated for what he accomplishes. In such cases the problem seems to lie in the job setting and not the career field. With job and career mobility what it is today, a projective technique may be a valuable tool for the psychologist dealing with adult career counseling.

Aside from specific career field identification the judges were asked to assess the instrument's ability to reveal such other career related material as discussed above. It was unanimously agreed that the new instrument accomplishes this for both high school students and adults to a high degree.

The following are isolated observations stemming from the administration and use of the Photographic Occupational Survey in post-test counseling situations.

1. Responses tend to suggest not only the career field but the work setting as well. For example, a subject may respond with strong human service themes to such photographs as a school teacher, a counselor, a nurse, a barber, or a fireman. Yet, when asked to indicate how pleased the subject is with his work and how it will turn out, the only one that appeals to the subject is the teacher. When questioned about this, the subject is usually able to give an explanation for his answer.

2. Responses that are related to a subject's interests or concerns in a photograph tend to be longer than those not so related.

3. Photographs strongly rejected or accepted are often accompanied with personal references such as "I'd hate that" or "That's what I'd like to do."

4. The highly academically motivated student does not necessarily produce more accurate or perceptive responses.

5. The highly academically motivated student, with the exception of knowing he wants to go to college, does not necessarily have a firmer grasp on his career plans.

6. Students tend to be impatient about wanting to discuss the outcome of testing, more so than after having completed only a paper and pencil interest inventory.

7. It is difficult to complete the survey in one 45 minute class period, but spreading the testing over more than one sitting does not appear to destroy the original rapport established between the examiner and the subject.

Recommendations

Reliability

It was stated in Chapter III that a pilot study of the new instrument's reliability would be conducted. Reliability, for the purpose of this study, was considered to be the amount of consistency in interpretations. The question was expressed as, to what extent could repeated results be expected when protocol already judged were judged by another group of experts? Five randomly selected 12th grade protocols and five randomly selected adult protocols were used in the study. Two different judges, both career counselors, and the researcher, served as the new three-man committee. The procedures followed by the new committee were the same as those followed by the original committee.

In the case of the five adults, the analysis consisted of comparing the new judges' ratings of each protocol for its career field identification and comparing it with the adults' present or intended career field. All five were correctly identified and corresponded with the original judges' interpretations.

In the case of the five 12th grade students, the analysis consisted of comparing previous protocol career field identifications with the new protocol identifications and ascertaining the percent of agreement. The same procedure was followed for the expressed and measured interest categories. Coincidentally, the ratings for the protocol category were 12 out of 14 career fields correctly identified for 86% accuracy, and 6 out of 7 possible successes for both the expressed and measured categories, both also, for 86% accuracy. The weighted formula was used in the latter test.

Campbell (1972) states in his projective study employing a photographic instrument, "Reliability, internal consistency, and consistency over time may be appropriate tests of value for the developer of a standardized test instrument encorporating pre-set, limited response capabilities. However, reliability, in the emperical sense, is inappropriate for use in the present context." (p. 99).

The researcher feels that using the same approach as above with a sample of 30 or more would provide more conclusive results. It would also be appropriate to utilize the same approach as above, but judged by the same judges after some specified lapse of time.

Validity

Campbell concluded that his study possessed content validity because his photographs represent an original survey of the area. The researcher believes this is also the case in the present study. The photographs represent work being performed in seven selected field categories and the choice of a photograph to represent a given field category being the opinion of a group of seven expert judges.

In the Standards for Educational and Psychological Tests and Manuals (American Psychological Association, 1966) it is suggested that the process employed in the use of projective devices may not lend itself to statistical or psychometric procedures in all cases. "A projective test author need not identify his tests validity by correlating it with any sample criterion." However, if his generalizations lead him into the realm of statistical claim such as "most people," the test developer is expected to follow the rules that support it. "If a projective test makes no such claim, a quantitative standard would not be meaningful for it."

Committee Recommendations

1. It was suggested that several photographs be substituted to permit the inclusion of others that depict the musical and legal fields. The language arts area also appeared to be limited in permitting appropriate responses. In two cases, the committee felt that facial expressions elicited positive responses where in reality, there might not be reason for a positive response. Neutral photographs were recommended.

2. The instructions to the subject should include a response to indicate more clearly the level of aspiration of the subject in the photograph.

3. The sub-items in Item #8 of the Protocol Evaluation Form should be expanded and more clearly defined. At the present time, several items contain more than one characteristic.

Other Recommendations

1. Studies be conducted to clarify the relationship between expressed, measured, and projected interests.

2. The "after effects" of responding to the survey be studied to

ascertain the impact the results might have had on the subject's self-perceptions.

3. Longitudinal studies be planned to measure the amount of change in perceptions at the high school, college, and employment levels.

4. The effects career exploration and value clarification have on career projections be studied.

5. Studies be conducted to establish the point or period when readiness for career decision making has been reached. Findings suggesting that certain kinds of responses and perceptions indicate readiness would be especially valuable for the high school and college counselor.

6. Research be conducted with such specific groups as managers, supervisors, engineers, accountants, toolmakers, construction workers, and teachers to ascertain differences in perceptions, values, and likes and dislikes.

7. Studies be undertaken with 11th and 12th graders that would reveal the effects of intellectual level, socio-economic status, sex, and behavioral history on responses.

8. The instrument be used to investigate underlying causes for those who are chronic career misfits. Suggestions 7 and 8 were made by Dr. Loretta M. Macdonald.

9. The effects of using colored rather than black and white photographs be studied.

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APPENDIXES

APPENDIX A

FIELD CATEGORY ORGANIZATION CHART*

CAT. "A"	TECHNOLOGY		BUSINESS		HUMAN SERVICES	CREATIVE		MEDICAL	TRADES	OUTDOOR
CAT. "B"	DESIGN AND DEVELOPMENT	LAB. ANALYSIS AND INVESTIG'N	SALES AND PUBLIC CONTACT	BUS. AND FINAN'L ANALYSIS AND DETAIL	HELPER OCCUPATIONS	INDIVIDUAL ARTS	PERFORMING ARTS	MEDICAL	** TRADES	OUTDOOR
LEV. 1	MECHANICAL ENGINEER 6	CHEMIST 18	CORP., TECH. SALES	ACCOUNT. 11	CLERGYMAN PSYCHOLOGIST ATTORNEY 2 and 5	WRITER ARTIST MUSICIAN SCULPTOR 20 and 25	ACTOR MUSICIAN DANCER 17 and 16	DOCTOR DENTIST 15 and 3	TOOLMAKER CABINET-MAKER CARP'R 30 and27	AGRONOMIST GEOLOGIST PETROL. ENGINEER 13 and 26
LEV. 2	ENGINEERING TECHNICIAN ——— AIDE 1	LAB. TECHNICIAN ——— LAB. AIDE 21	SALES PERSON (VARIOUS) 10	SEC'Y ACCOUNT'G CLERK 8	PSYCHIATRIC AIDE POLICEMAN FIREMAN 22. and 23, 7	PHOTOG. PHOTO. LAB. TECHNICIAN 4	SET DESIGNER	NURSE MED. TECH. X-RAY TECH. 9 and 3	CAR'P ROUGH ——— HELPER 12 and14	FARMING FISHING FORESTRY LANDSCAPE 24 and 29
LEV. 3	CUSTODIAN	CUSTODIAN	BAGGER	FILE CLERK MAIL GIRL 19	WAITRESS, COUNTER TRASH COLLECTOR MAID 28	———	STAGEHAND	ORDERLY, HOSPITAL	MATERIAL HANDLER	FARM HAND ——— LABORER 29

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* The examples above are only suggestive of the wide variety of occupations that can represent the Field Categories selected for this study.

** Occupations in the Trade category, opposite Level 1, are not intended to imply that they are professional or semi-professional jobs. They simply show a separation in the levels that exist.

*** Numbers appearing in the cells represent the number of the photograph representing that Field Category and Level.

APPENDIX B

Dear

Thank you for your interest and willingness to assist me in the research I am undertaking. As I mentioned in our recent conversation, the judgments you are being asked to make are part of the process of developing a new Photographic (Projective) Occupational Interest Survey. There are (150) photographs depicting people working at their chosen occupation. In some cases there are near duplicates of the same person, but one photograph may be judged a better representation of the job than the others.

After considerable thought and examination of field categories and the idea of occupational levels, it was decided that combining the interest categories used in connection with the Differential Aptitude Tests, published by the Psychological Corporation, would be appropriate for the purposes of this instrument. Please examine the attached Field Category Organization Chart. The "ideas, people, things" concept is covered by a broad breakdown of (7) major field categories (A). (B) is a finer breakdown into more specific categories. Three suggested levels appear below (B). This field and level solution is similar to Roe's classification. However, using (3) levels instead of (6) appears to be a sufficient breakdown for purposes of high school and college counseling.

Rationale Anyone with considerable experience with high school career counseling or follow-up of recent high school graduates is aware of the difficulty young people have in making career decisions. Our experience, plus contact with college admissions personnel and professional placement agencies reveal the inadequacy of knowing, "who am I, where am I going, and what am I going to do." Much of the student's problem could be solved if he knew, at least, that he definitely "fits" one of the (7) major field categories. It would be something of a miracle if most high school students, starting from scratch in career counseling, could finally say, "My field is the field of Business, on the professional level. I'm going to major in Finance and Banking. I'm going to look for employment with an insurance company as an investment analyst." This happens occasionally, but very rarely. This instrument does not intend to solve career problems with such a degree of specificity. It is intended, primarily, as an aid to discovery and decisions on the broad "A" category fields level. Hopefully, some clues to the "B" category or finer breakdown could be forthcoming. Then, depending on the career planning model, such factors as values, goals, level of aspiration, monetary goals, aptitudes, abilities, and achievement can be used to round out the decisions and, perhaps, bring the future into sharper focus.

Instructions for Judging the Photographs

1. One hundred and fifty photographs are included in the group, numbered on the back in the upper right-hand corner, but not prearranged in an occupational order.

2. The majority of the photographs were taken and developed by the researcher. Some were furnished by various agencies who would

like to have them returned. Therefore, please do not write on the back of the photographs or permit any writing to be imprinted on the face of the prints.

3. Disregard any imperfections in the prints such as specks, off centering, contrast, etc. These will be corrected on the final print.

4. Please view each photograph. Determine to which of the (7) field categories each photograph belongs. It is suggested the photographs be put into (7) separate piles. Using the Category Assignment Form (photographs numbered 1-150), place a category symbol next to the number of the photograph indicating, in your judgment, the category to which the photograph belongs. These are: T = Technology, B = Business, H = Human and Social Services, C = Creative, M = Medical, TR = Trades, and O = Outdoor.

5. Next, go through each pile and choose the (5) that best represent the field and level in each of the (7) "A" field categories. Place one of the three symbols 1, 2, or 3 opposite your choice.

1 represents Professional - semi-professional

2 represents Technical-skilled

3 represents Semi-skilled-unskilled

It would be ideal if you chose at least one or possibly two photos per level, but you may not find suitable photos to do this. Regardless, choose the best (5) per field category. Keep in mind that (3) of the field categories have (2) sub-groups--Technology, Business, and Creative. Example: Technology has the developmental-design and investigatory-lab sub-groups. Again, it would be advisable to have (1) each in the (6) space matrix, if possible.

Judgments will be more difficult as one differentiates between skilled trades and skilled technical jobs. Semi and unskilled levels are difficult to assign to field categories. Research suggests that on this level, fields are not as significant to the individual as the need to have a job and to earn a paycheck. In summary, the first column should contain (150) assignments and the second column (35) that best represent the (7) "A" field categories.

6. Finally, at the bottom of the page, in the comments section, please indicate which category, if any, is seriously deficient in photographs. Any suggestions would be greatly appreciated. If there are any questions regarding these instructions, I may be reached during the work day at 203-521-1350 or in the evening at 203-526-9024. Please call collect.

In returning the photographs, please package them well in a box and return them collect, special handling, and insured to: Henry S. Grzybala, 16 Pleasant Street, Chester, Connecticut 06412. If the mailing fee is paid, please indicate any special handling or packaging cost you might have incurred. These costs will be returned to you without delay.

Thank you again for your cooperation in this study.

Sincerely yours,

Henry S. Grzybala

OCCUPATIONAL FIELD

CATEGORY ASSIGNMENT FORM

Title and name of judge:______________________________________Date:________

Home address:____Phone:________

Professional position:____

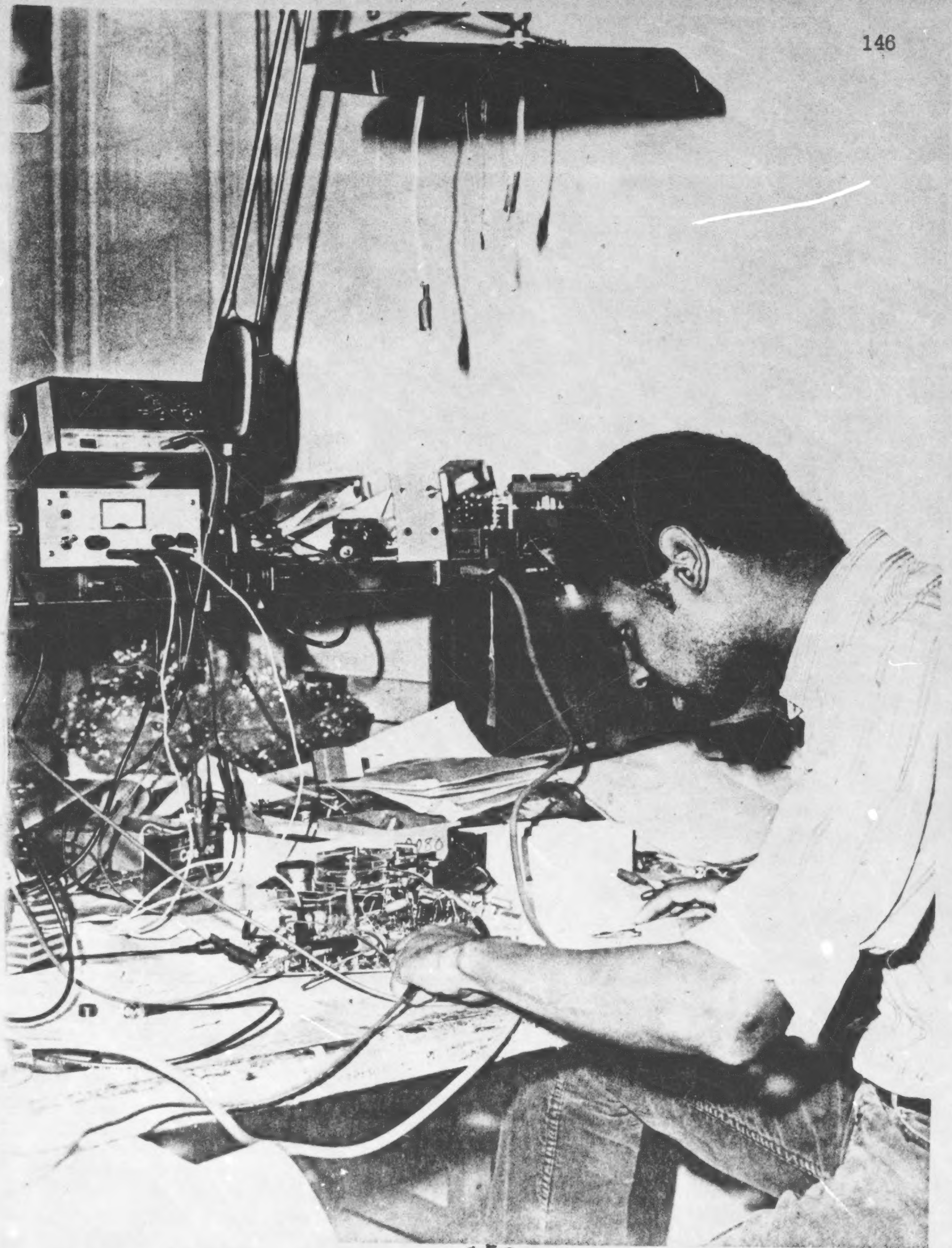
Employment address:____

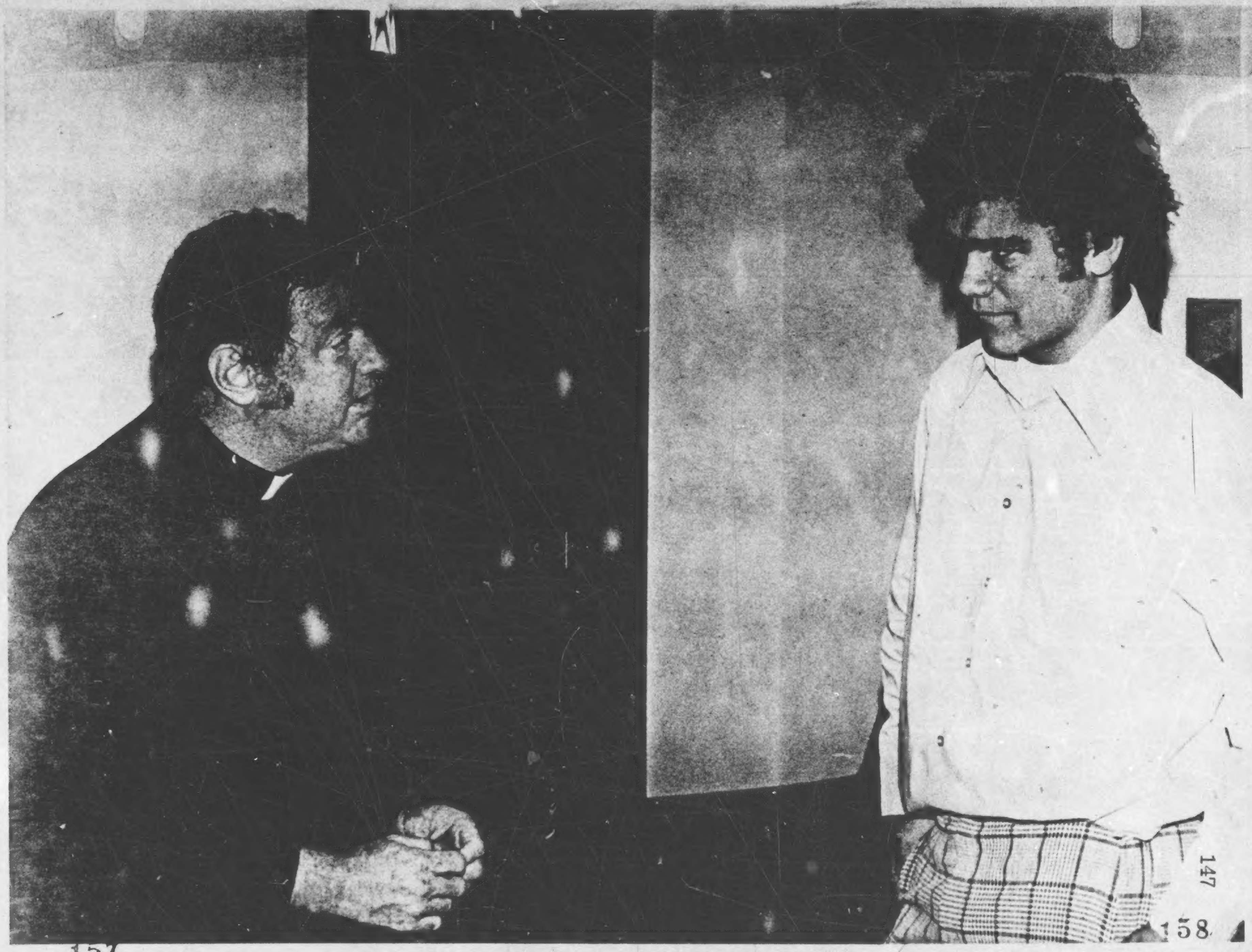
Photo #	Best	Photo #	Best	Photo #	Best	Photo #	Best	Photo #	Best
1.		31.		61.		91.		121.	
2.		32.		62.		92.		122.	
3.		33.		63.		93.		123.	
4.		34.		64.		94.		124.	
5.		35.		65.		95.		125.	
6.		36.		66.		96.		126.	
7.		37.		67.		97.		127.	
8.		38.		68.		98.		128.	
9.		39.		69.		99.		129.	
10.		40.		70.		100.		130.	
11.		41.		71.		101.		131.	
12.		42.		72.		102.		132.	
13.		43.		73.		103.		133.	
14.		44.		74.		104.		134.	
15.		45.		75.		105.		135.	
16.		46.		76.		106.		136.	
17.		47.		77.		107.		137.	
18.		48.		78.		108.		138.	
19.		49.		79.		109.		139.	
20.		50.		80.		110.		140.	
21.		51.		81.		111.		141.	
22.		52.		82.		112.		142.	
23.		53.		83.		113.		143.	
24.		54.		84.		114.		144.	
25.		55.		85.		115.		145.	
26.		56.		86.		116.		146.	
27.		57.		87.		117.		147.	
28.		58.		88.		118.		148.	
29.		59.		89.		119.		149.	
30.		60.		90.		120.		150.	

Comments and suggestions:

APPENDIX C

APPENDIX D

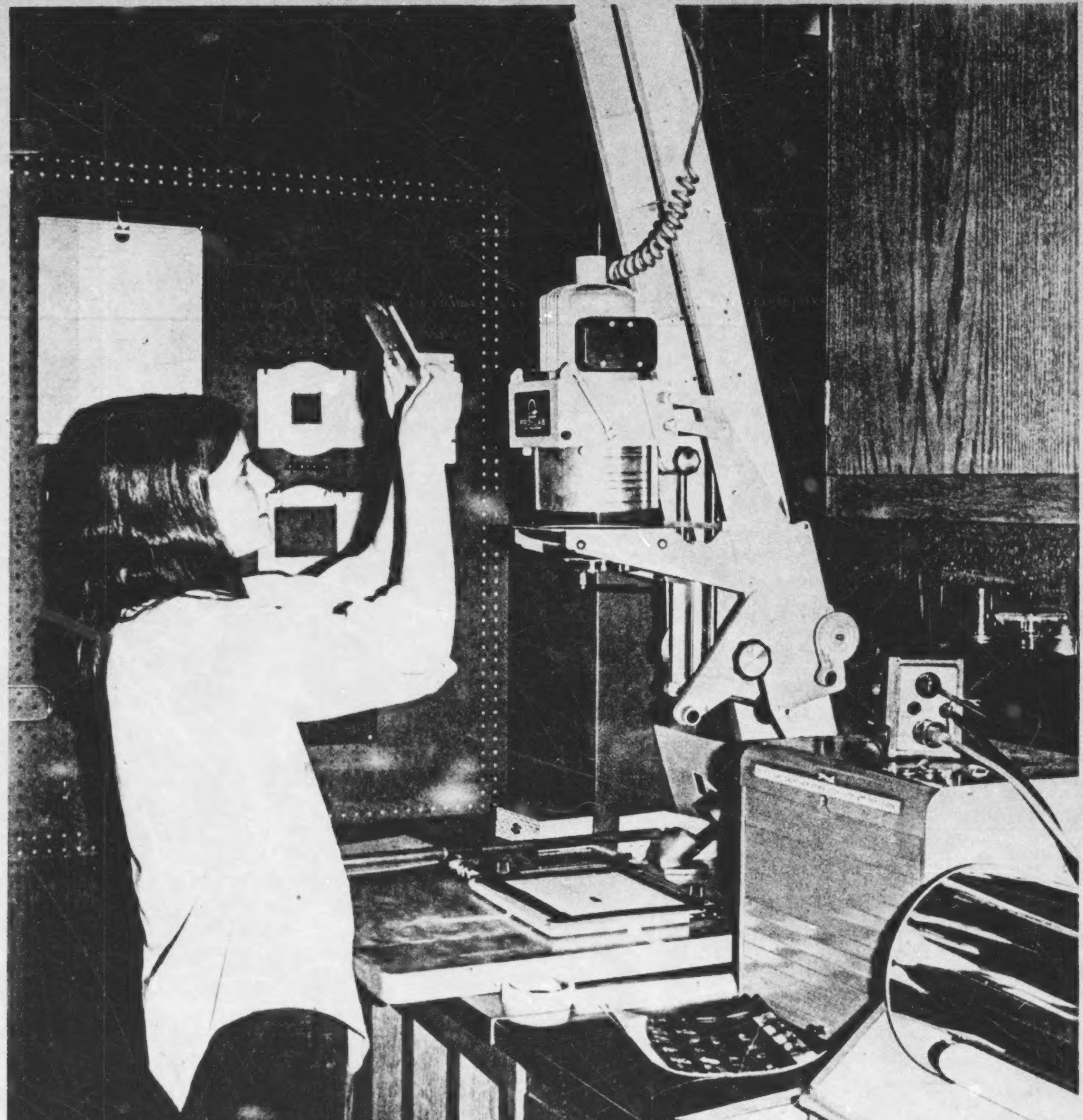


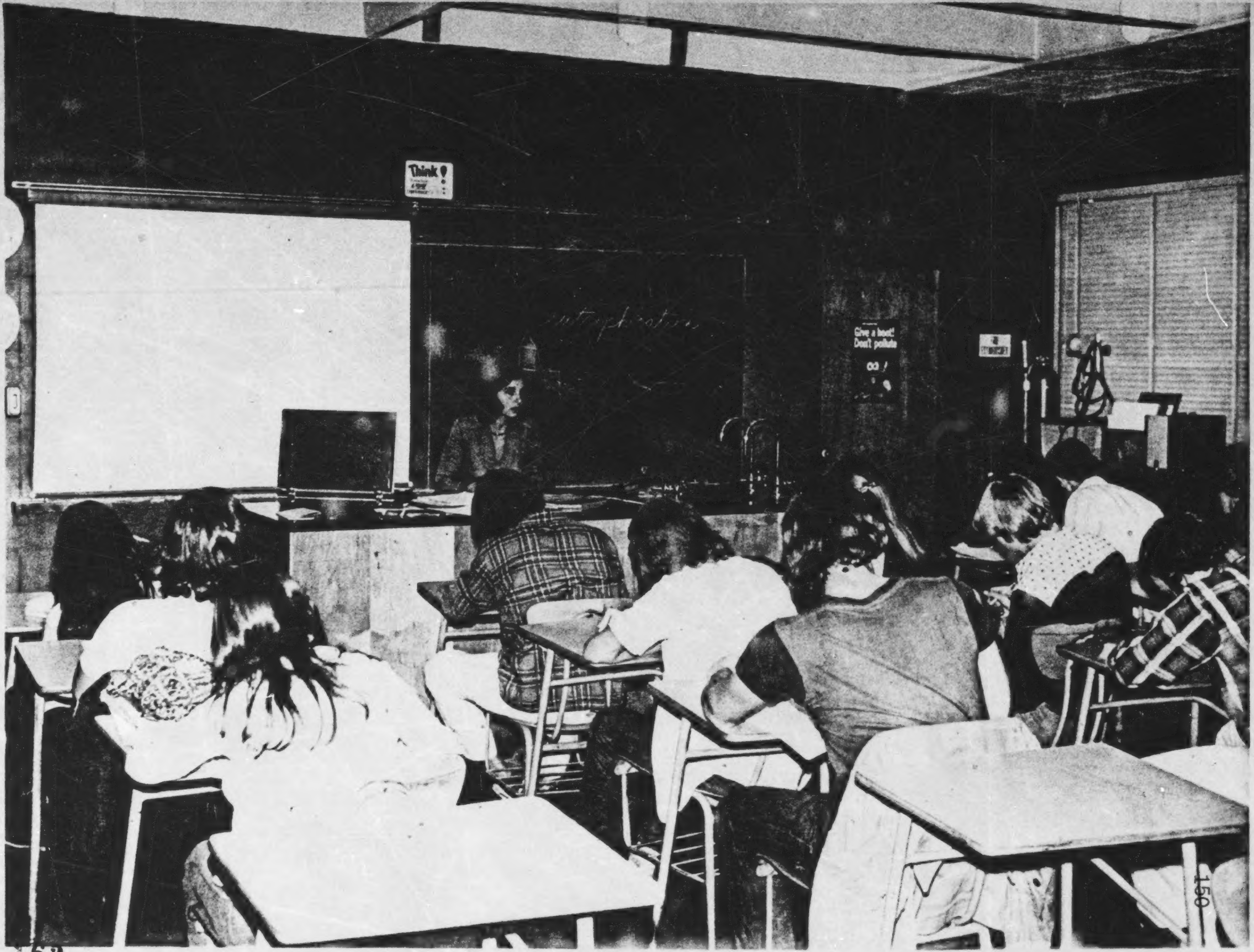


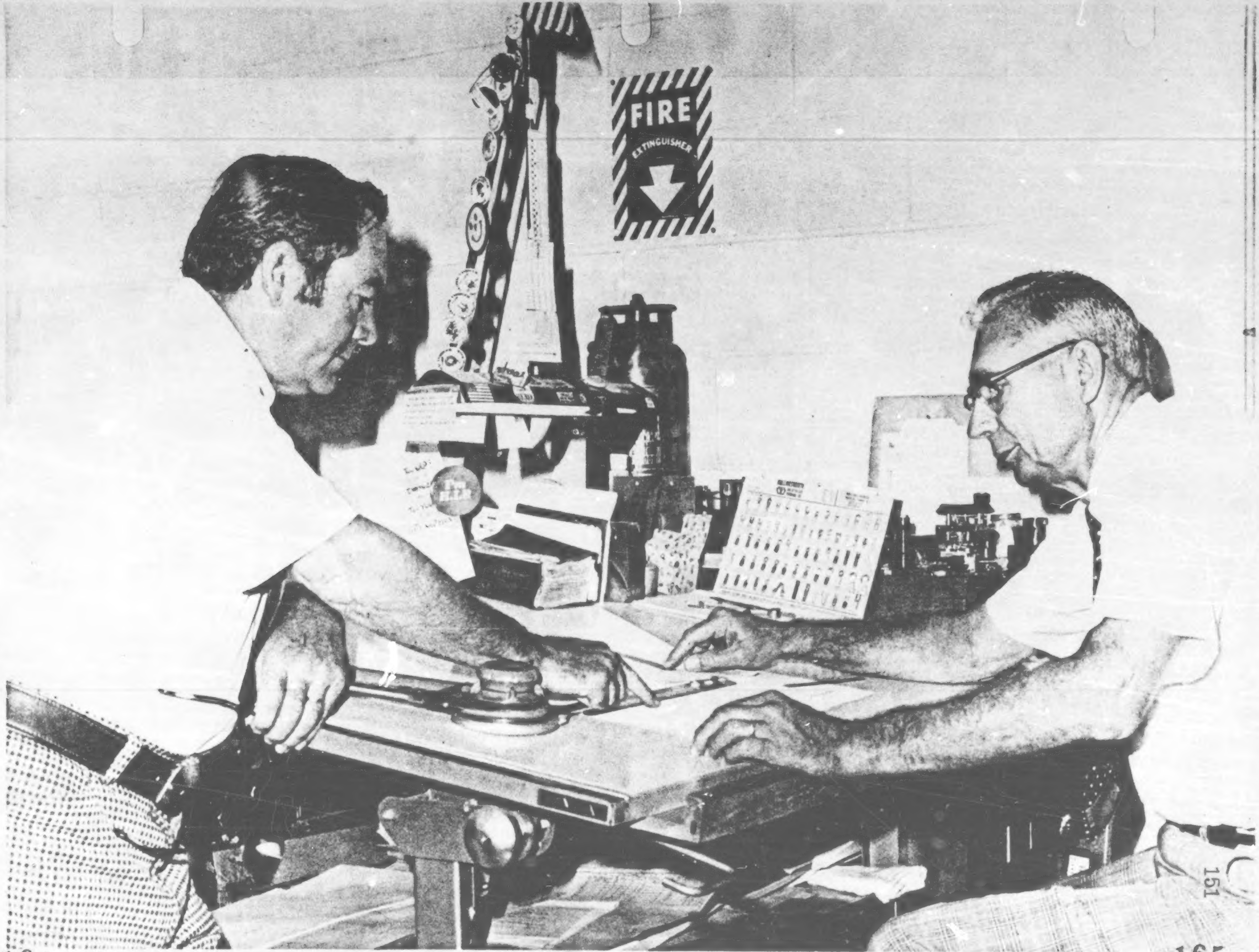
157

159

160




Think!
Give a hoot!
Don't pollute

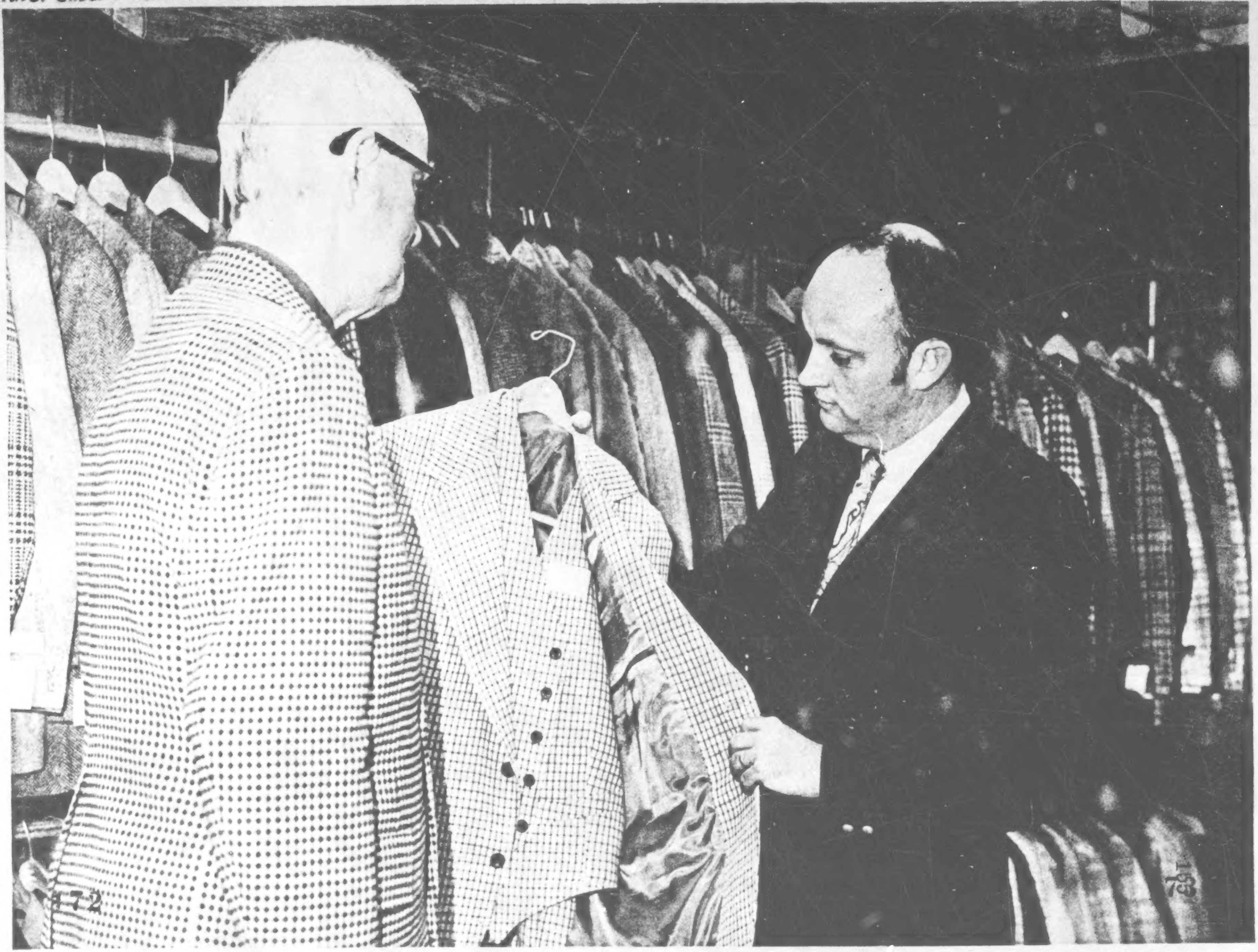

FIRE
EXTINGUISHER

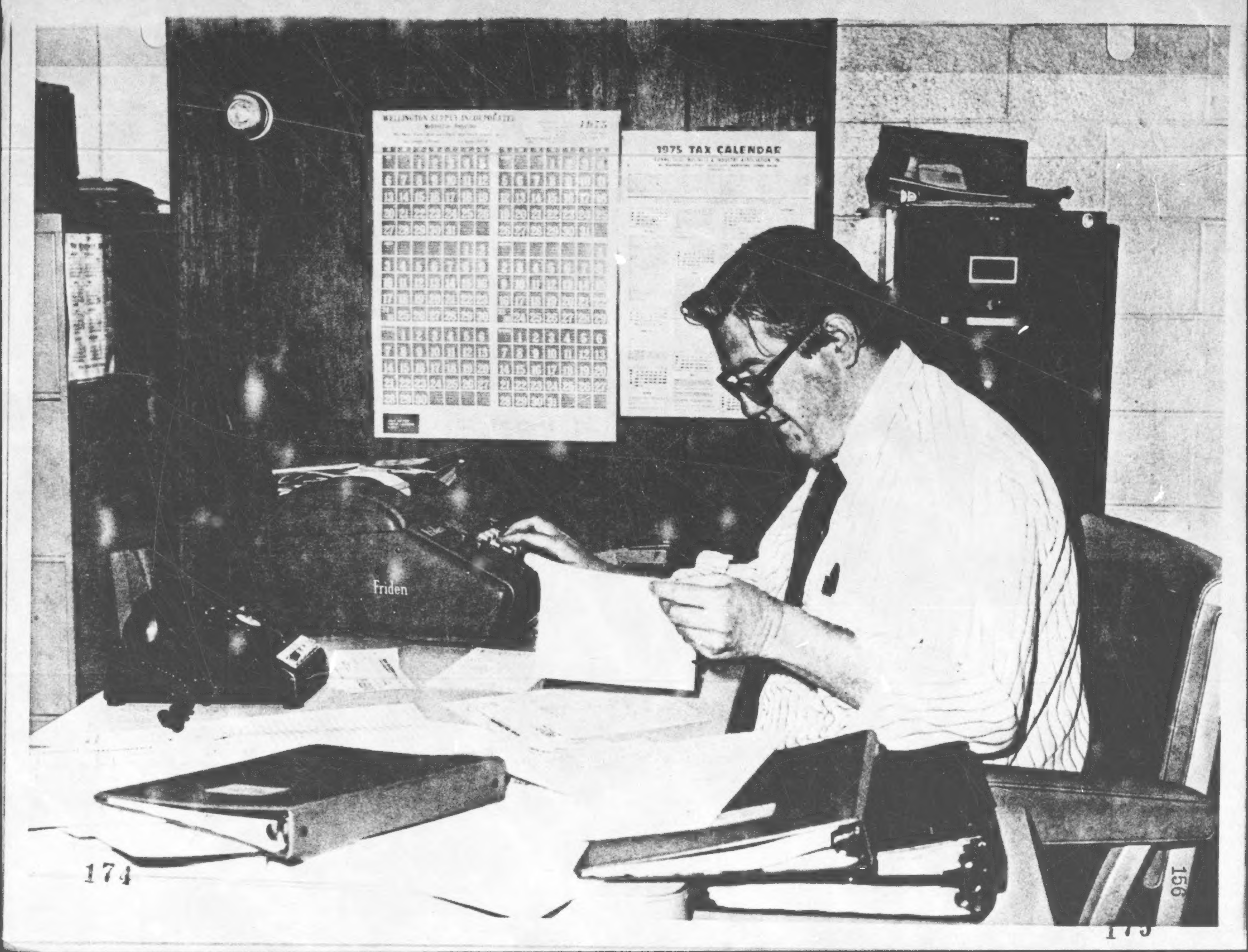
164 165

170

171

N.R.O. Sheet Protector Pr.D [illegible]

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1975 TAX CALENDAR
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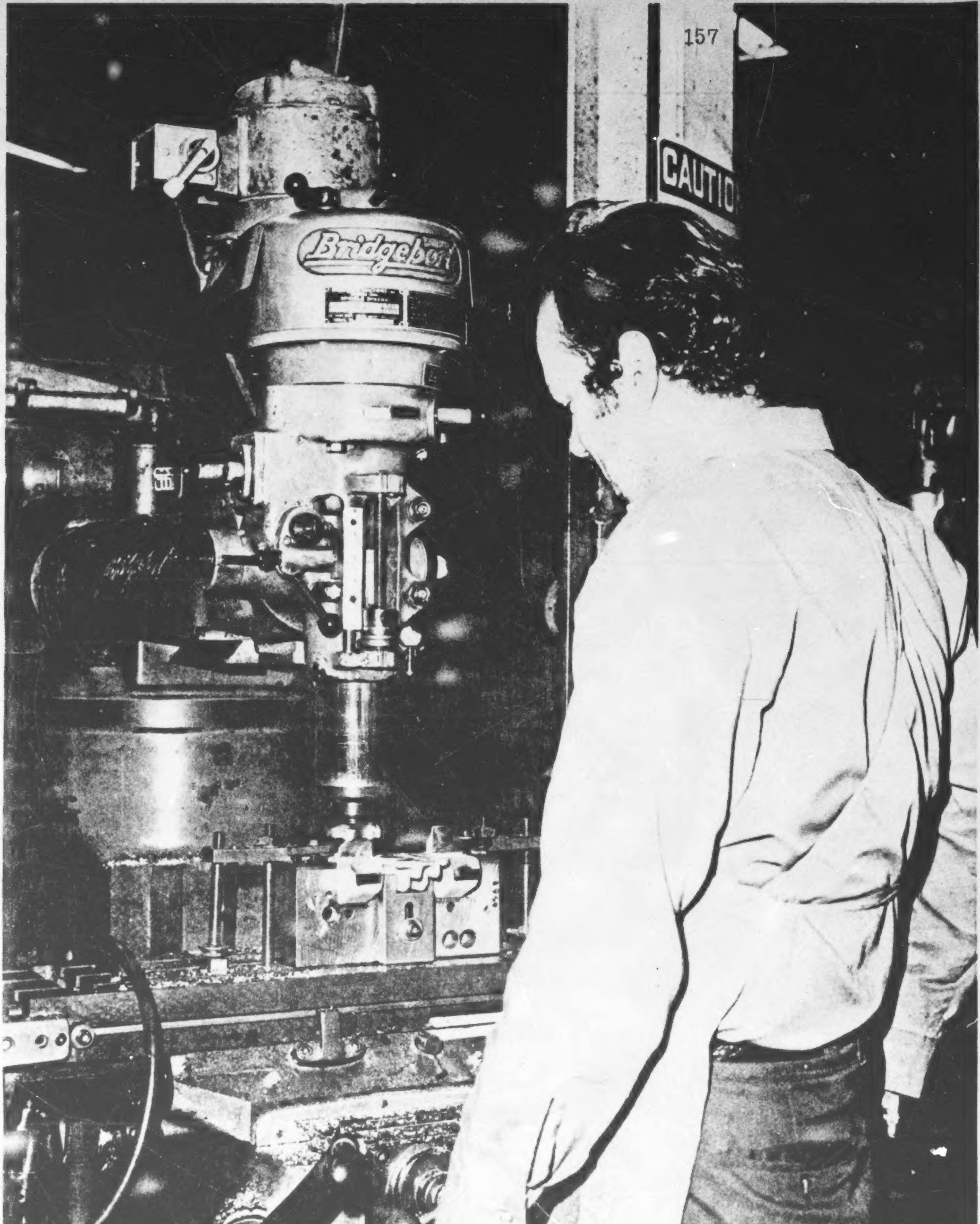
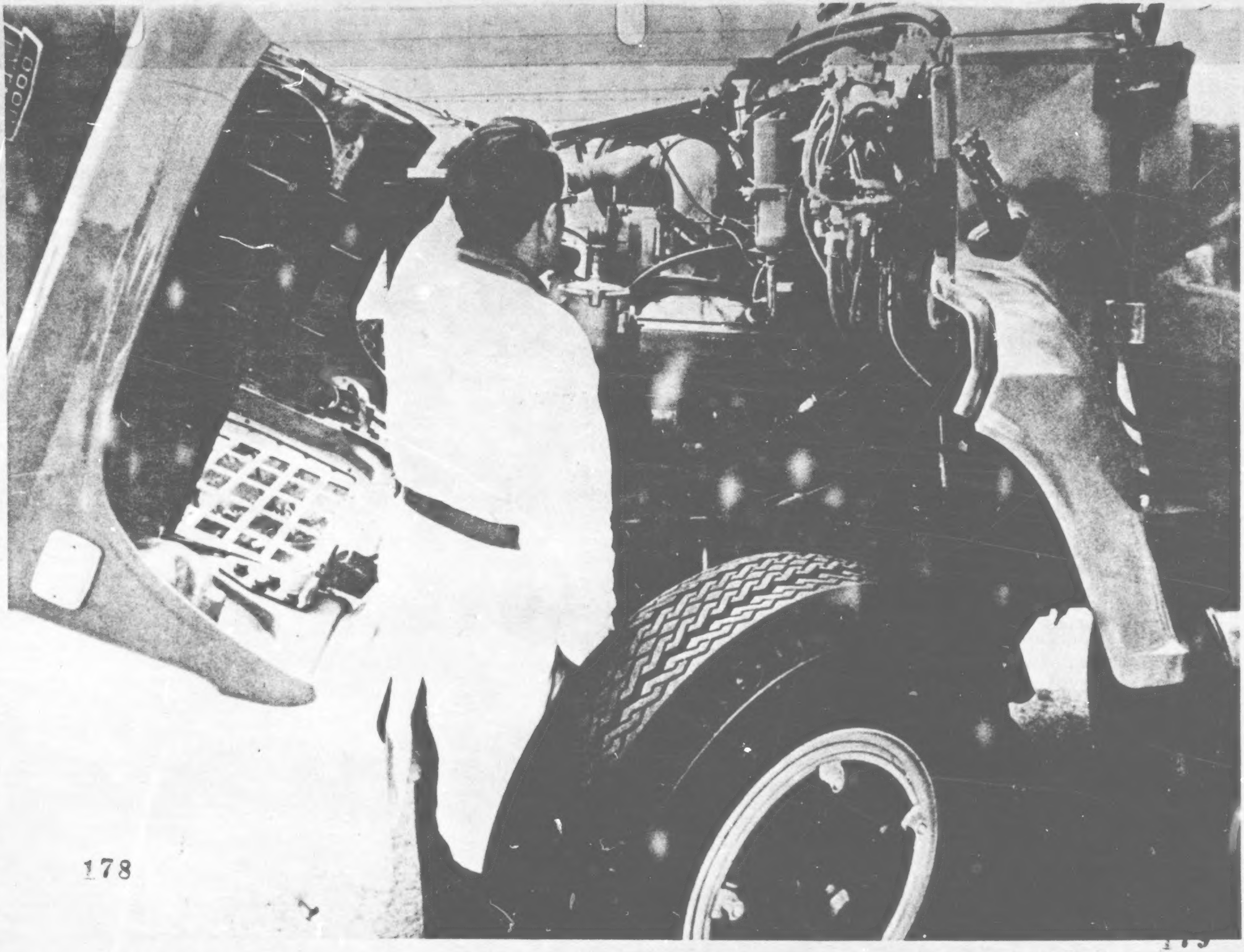
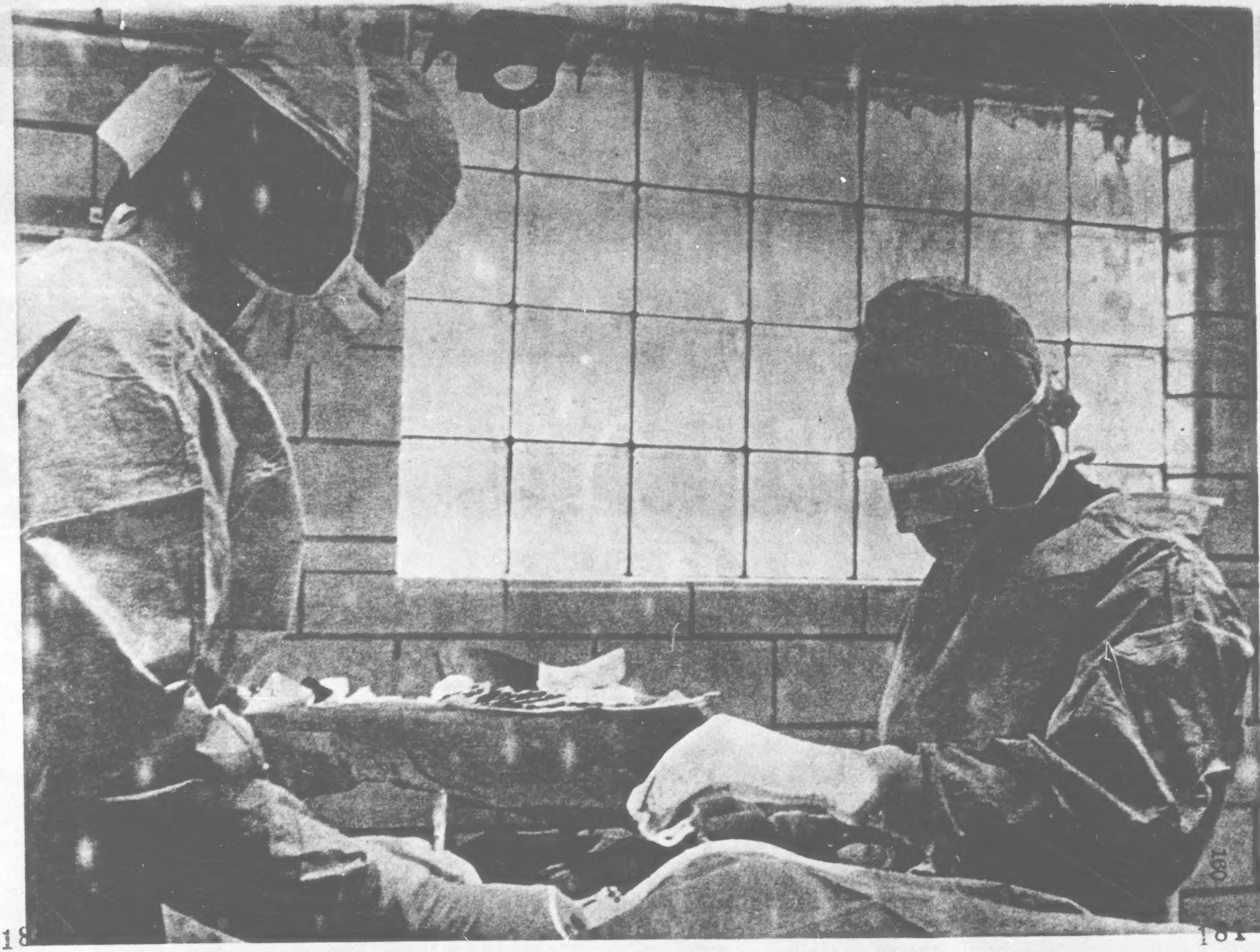

CAUTIO
Bridgeport

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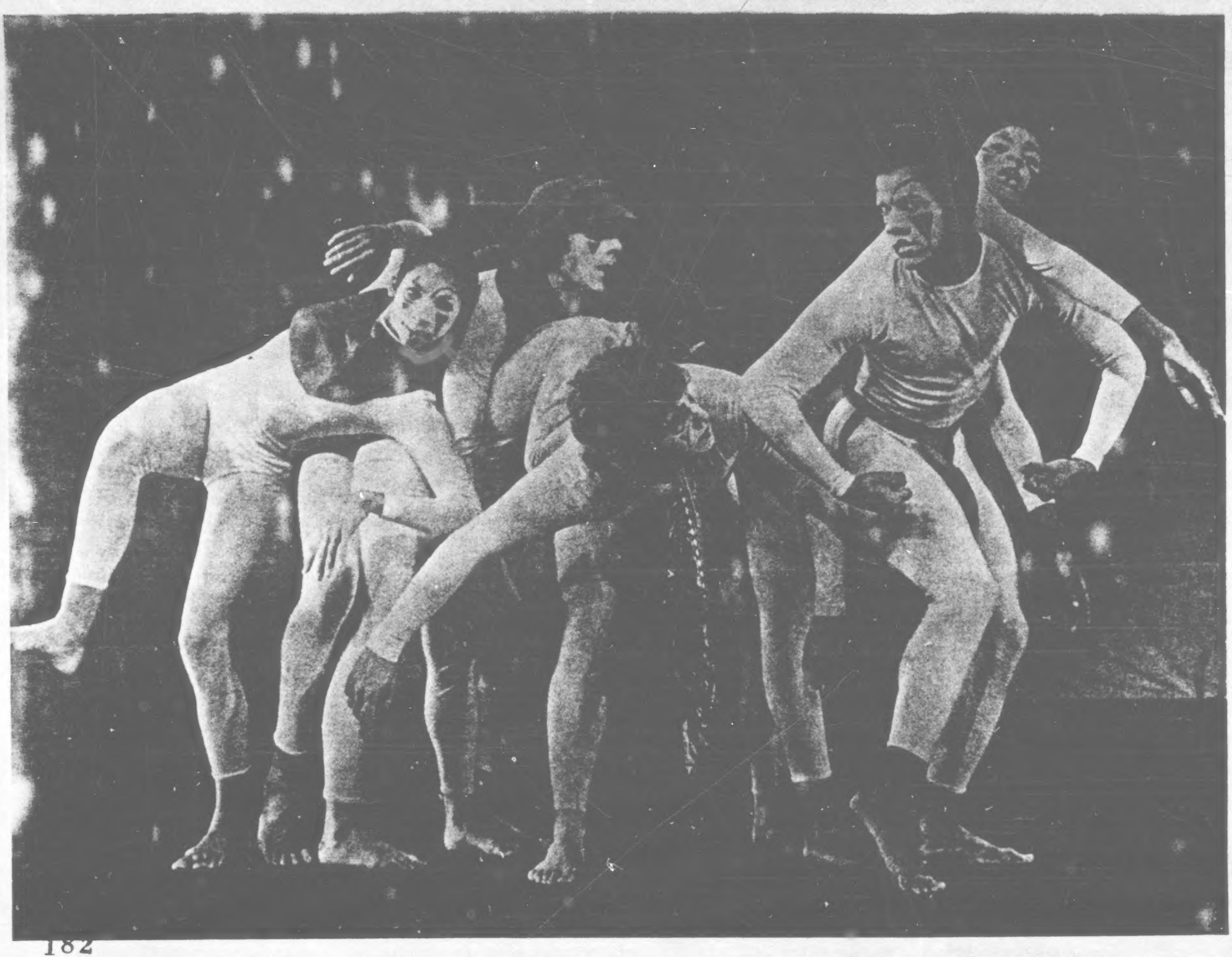

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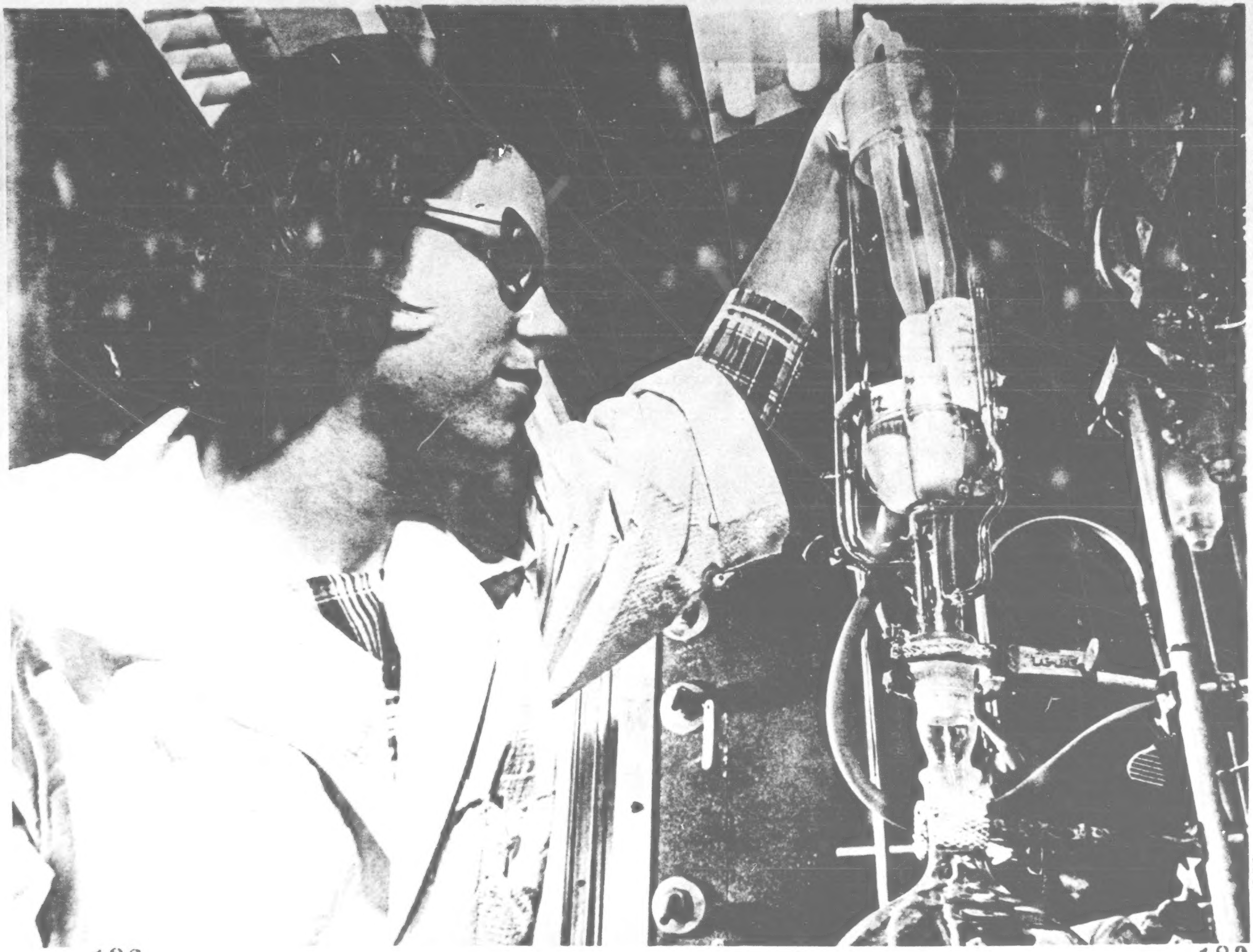

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AMERICAN LaFRANCE

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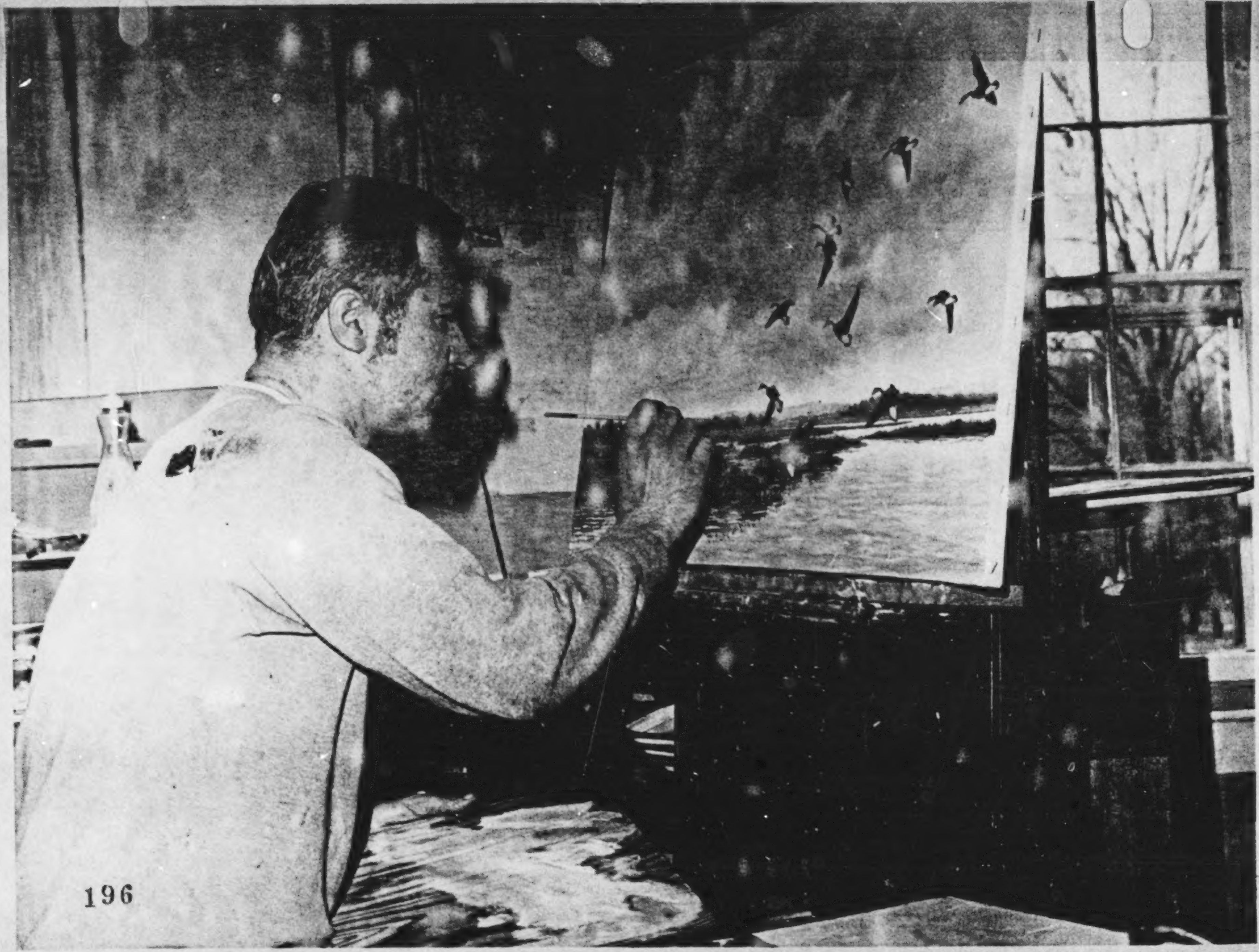

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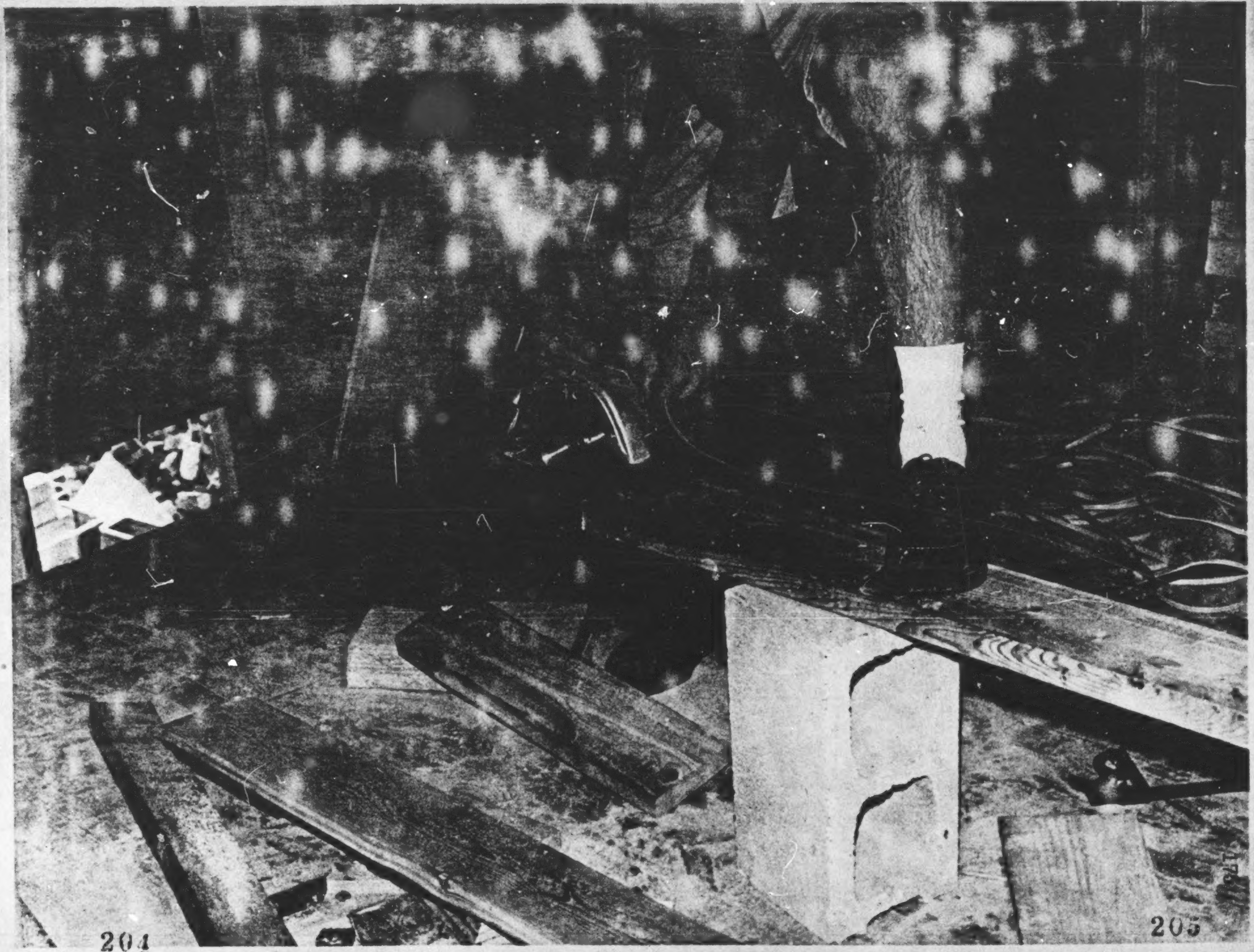
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205

FRANKLIN & MARSHALL
2 year schools

ADULT/EMPLOYED JOB SAMPLE

1. Administrative Assistant, convalescent hospital
2. Auto Mechanic
3. Barber
4. Book Bindery Operator
5. Bookkeeper
6. Career Resources Center Aide
7. Clerk, chief, foreign documentation export
8. Clerk, typist
9. Dentist
10. Draftsman, mechanical design
11. Electronics Technician
12. Financial Analyst, real estate
13. Guard, security
14. Insurance Agent
15. Insurance Underwriter
16. Machinist, experimental
17. Marine Technician, maintenance and repair
18. Modelmaker, wood
19. Nurse
20. Nurse, school
21. Order Department Supervisor
22. Physician
23. Pressman, printing

24. Radiological Control Monitor (semi-skilled)
25. Sales Representative, manufacturing and electronics
26. Secretary, general
27. Secretary, legal
28. Social Rehabilitation Aide
29. Steel Hardener
30. Stock Clerk
31. Store Clerk
32. Student, college, social services major
33. Student, graduate, business and finance
34. Student, graduate, guidance and counseling
35. Teacher, elementary
36. Unemployed, salesman, automobile
37. Unemployed, business detail, skilled
38. Unemployed, gas station manager
39. Unemployed, president, swimming pool sales and maintenance
40. Unemployed, two year college, general

APPENDIX E

EXHIBIT I

Instructions for Administering the Pictorial Occupational Survey

General

1. Seat the subject comfortably at a desk or table, in a room without distractions or the possibility of interruptions. When seated, say:

> Before we begin, I'd like you to give me some information about yourself. O.K.?
>
> Using the Subject Personal Data Form, complete the information requested. Number the form in the upper left-hand corner. This number should correspond with the number used to identify the subject's protocol. This will permit separation of the personal data from the protocol and avoid the possibility of influencing the blind interpretation of the protocol. Later, both can be combined for detailed analysis. Then:

2. Read the following information and instructions to the subject:

> What you are going to do today is tell me what you see, feel, and think about the photographs I'm going to show you. Each photograph will show one or more people working at their chosen occupation. This is what they do when they go to work each day and the way they earn their living. This is not a test. There are no right or wrong answers. What you see, feel, and think about what is going on in the photograph is the important thing. Do you understand?
>
> Now, as I present each photograph to you, I would like you to tell me (3) things about each one.
>
> 1. What kind of job is the person working at? What is the worker doing?
> 2. How did he happen to choose the occupation? What led up to it? How satisfied is he with what he is doing?
> 3. How will it turn out? Will he stay or look for other employment? What will he do?
>
> Do you understand what you are to do? Good. While you are telling me these things, I'm going to jot down some notes about what you say. Do you think this will bother you? Fine. Here is the first photograph.

3. Please note the final photograph, (31), is a non-occupational photo. There is a (31) for male and female, designated (31M) or (31F). The examiner should use the appropriate photo. When presenting (31), the examiner should simply say, "Here is a person thinking about (his) (her) occupational future. A decision has to be made about the kind of work (he) (she) will enter. What do you think is on (his) (her) mind? What will (he) (she) do? How will it turn out? When the subject has responded to the last photograph, say:

> Thank you for your interest and cooperation. When I have combined and analyzed all this information, I'll be happy to sit down with you and tell you how it all turned out. Then, I can tell you a little about what meaning your answers may have for you.

Specific Instructions and Suggestions to the Examiner

Recording the subject's responses

1. The subject's responses should be recorded on the Protocol Record Form provided.

2. The value and usefulness of this instrument will depend on the accuracy of the clinical evaluation of the protocol. This, however, will depend on the accuracy and detail of the subject's recorded responses. Consequently, the examiner will need to be sensitive to all significant responses and behavior during the test session. A recording of verbatum responses, with pauses, inflections, hesitations, doubts, comments suggesting degree of certainty, etc., would be a great advantage. This may not be possible. The examiner must use his judgment whether to record the exact words of the subject or to write a phrase containing the essence of what the subject said.

Recording Significant Comments

1. When the photograph is presented, and shock, excessive delay, or immediate reaction to like or dislike should be recorded. For example: "What a mess that is," "Oh, I like that," "I'll be darned if I can tell what he's doing," "Beats me."

2. References to "self" should not be over-looked: "I think I'd like that kind of work," "Boy, that's not for me."

3. References to detail about what is going on can lead to information about the degree of job knowledge the subject possesses: "This man is operating a milling machine. He has to be sure he doesn't remove too much stock otherwise the part will be scrapped. He gets his instructions from an operation sheet, etc. etc." This is different than the subject who responds, "He's operating some kind of machine and he's making something."

4. References to values should be recorded: social differences and help to others, monotony of the work, monetary goals, security, the work environment, etc.

5. References to level of aspiration, taking orders from superiors, future occupational goals, and promotional opportunities.

Assisting the subject

1. The subject should remember the (3) topics he was asked to comment upon for each photograph. If it appears that he has concluded his comments, but has left out reference to one of the topics, for example, the last question, the examiner may say, "That's fine, how do you think it will turn out, do you have any idea what will happen?"

2. If the subject began to relate what appeared to be significant information, but has not pursued it far enough, the examiner may suggest, "Would you care to tell me a little more about that?" Excessive probing or prodding should be avoided. This could be interpreted as disapproval of the subject's comments and lead him to fabricate information that he does not "see" in the photographs just to please the examiner.

3. At the completion of the final photograph, the examiner should "comment" at the end of the protocol and indicate any observations that could be significant in interpreting the results: anxieties, attitude toward the examiner or testing, or questions asked by the subject. If none, the word "none" should be written in this section.

EXHIBIT 2

Subject Personal Data Form

No.____________ Date:____________________

Name:__________________________ Telephone:________________

Address:____

STUDENT: GR. 11___ GR. 12___ Do you intend to continue your education beyond high school? Yes_____ No_____

In which occupational field do your strongest interests lie at this time?

Technology - Science____ Business - Sales____ Human and Soc. Service____

Creative - Arts____ Medical____ Trades____

Outdoor (Agriculture, etc)____ Undecided____

Specifically, what would you like to do?__________________________

____________________ Undecided__________

EMPLOYED: High School Completed: Grade 9___ 10___ 11___ 12___

High School Major: General ____ College Prep ____ Business____

College Completed: Yes 1____ 2____ 3____ 4____ College Major____

Graduate School Completed: Degree______________ Major____________

Present job title______________________ Length of service on present job? ______________

What other jobs have you held? 1.__________________________

2.__________________________ 3.______________________

How satisfied are you with your present job?

Vy dissat'd____ Dissat'd____ Mod. Sat'd____ Well Sat'd____ Highly Sat'd____

Major reason for your being satisfied?__________________________

Major reason for being dissatisfied?______________________________

Do you have any intention of changing your present occupation?

Yes_____ No_____

If yes, what kind of work would you like to do?______________________

Father's occupation?____

Mother's occupation other than housewife?_________________________

What are your hobbies and special interests?_______________________

____

COMMENTS:

EXHIBIT 3 (sample page)

No.______ Name______________________ Date____________

PROTOCOL RECORD FORM

This form should be used to record the subject's responses. A space is provided for (31) photographs. The last space is for "Comments." If there are none, please write the word NONE in that space.

Photograph
#1

Photograph
#2

Photograph
#3

APPENDIX F

STUDENT PROTOCOL EVALUATION FORM

No:____________ Name:________________________

Please examine the student's responses to the photographs. Refer to the photographs if you feel it will assist you in your judgments. Complete each item below by checking the appropriate answer.

1. In most cases the counselee's perceptions of the jobs being performed in the photographs were:

   Of limited accuracy____ Moderately accurate, some job knowledge ____ Very accurate ____

2. The counselee has stated or expressed career interests in________

   ____

   His protocol responses support____oppose____neither support nor oppose____ his expressed career interests.

3. This counselee has measured (Kuder) career area interests in

   ____

   His protocol responses support____oppose____neither support nor oppose____ his measured career interests.

4. This counselee's choice of career areas (expressed or measured) is Undecided or so weak that no significant career areas can be identified. Do the counselee's protocol responses tend to suggest a career area(s)? Yes____ No____. If yes, which career area(s)?

   ____

5. With respect to occupational level, which of the three occupational levels below are suggested or supported by the counselee's protocol responses?

   a. Professional-Semi-professional ______
   b. Technical-Skilled ______
   c. Semi-skilled-Unskilled ______
   d. No significant levels suggested ______

6. The counselee's protocol responses suggest a: Low level of interest (career) readiness for decision-making purposes_____. Sufficiently high level of interest readiness for decision-making purposes______.

7. The counselee's protocol responses show evidence of career confusion and/or anxiety over his occupational future.
Yes____ No____

8. Please check the items (values, concerns, etc.) that seem to be indicated in the counselee's protocol responses.

   a. Concern for well-being of others ____
   b. Desire to deal with people, for broad people contact as opposed to a solitary, confined or limited people contact occupation. ____
   c. Economic security and/or economic achievement. ____
   d. Desire for a leadership role. ____
   e. Desire for responsibility and decision making opportunities. ____
   f. Desire to work with and explore the unknown (space, physical phenomenon, philosophy, human behavior, composition of matter, etc. ____
   g. Desire for promotional opportunities. ____
   h. Desire to work or deal with systems, organization, order in management and operations. ____
   i. Desire for ownership. ____
   j. Concern for creative activities, beauty, shape, form, sound, harmony of ideas, expression of ideas. ____
   k. Other____________________________ ____

9. In your opinion, have the counselee's perceptions supplied useful career-related information that would not normally have been supplied by responses to paper and pencil interest inventories?

   Yes_____ No_____ Undecided_____

10. Please add any other information or comments that you think might help to assess the counselee's protocol.

____

____

____

ADULT/EMPLOYED PROTOCOL
EVALUATION FORM

No.______ Name______________________________

Please examine the client's responses to the photographs. Refer to the photographs if you feel it will assist you in your judgments. Note each item below by checking the appropriate answer.

---

1. Client's perceptions of the jobs being performed in the photographs were:

Of limited accuracy in most cases.	Moderately accurate, some job knowledge.	Very accurate in most cases.
__________	__________	__________

2. The client is presently employed as a:____________________
b:\____________________ c:\____________________

3. The client has had job experience also as a:________________
b:\____________________ c:\____________________
Do his responses: Support____ Oppose or deny____ Neither support nor oppose these job experiences?____

4. The client is unemployed: Do his responses tend to suggest a career area(s)? Yes____ No____ If "yes," which career area(s)?
____

5. With respect to occupational level, which of the three occupational levels below are suggested or supported by the client's responses?
    a. Professional-Semi-professional ______
    b. Technical-Skilled ______
    c. Semi-skilled-Unskilled ______
    d. No significant levels suggested ______

6. The client's protocol responses suggest a: Low level of interest (career) readiness for decision-making purposes_____. Sufficiently high level of interest readiness for decision-making purposes_____.

7. The client's protocol responses show evidence of career conflict and/or anxiety over his occupational future. Yes____ No____.

Adult

8. Please check the items (values, concerns, etc.) that seem to be indicated in the client's responses.

a. Concern for well-being of others. ____
b. Desire to deal with people, for broad people contact as opposed to a solitary, confined or limited people contact occupation to a solitary, confined or limited people contact occupation. ____
c. Economic security and/or economic achievement. ____
d. Desire for a leadership role. ____
e. Desire for responsibility and decision making opportunities. ____
f. Desire to work with and explore the unknown (space, physical phenomenon, philosophy, human behavior, compos[illegible]on of matter, etc. ____
g. Desire for promotional opportunities. ____
h. Desire to work or deal with systems, organizations, order in management and operations. ____
i. Desire for ownership. ____
j. Concern for creative activities, beauty, shape, form, sound, harmony of ideas, expression of ideas. ____
k. Evidence of career satisfaction, but job satisfaction is questionable. ____
l. Contemplating a job change. ____

9. In your opinion, have the client's perceptions supplied useful career-related information that would not normally have been supplied by responses to paper and pencil interest inventories?

Yes_____ No_____ Undecided_____

10. Please add any other information or comments that you think might help to assess the client's protocol.

APPENDIX G

EVALUATION SUMMARY WORK SHEET

No: ________ Name: ______________________________

EXPRESSED INTERESTS (DAT clusters)

in order of preference . Success

1. ______________________________ ______
2. ______________________________ ______
3. ______________________________ ______

INTERPRETED PROTOCOL INTEREST

1. ______________________________
2. ______________________________
3. ______________________________

MEASURED INTERESTS (Kuder)

in order of highest percentile

1. ______________________________ ______
2. ______________________________ ______
3. ______________________________ ______

Vita of: Henry S. Grzybala

January, 1977

Home Address: 16 Pleasant Street, Chester, Connecticut,
Telephone: (203) 526-9024

Date of Birth: December 11, 1918 Marital Status: Married

Degrees Earned

1941 Mus. B. New England Conservatory of Music, Boston, Mass.

1948 - M.S. Syracuse University, Syracuse, New York

Further Graduate Study

1948-50 - Syracuse University, Syracuse, New York. Sixty graduate hours beyond the Master's Degree in Personnel and Psychology.

1969-70 - University of Hartford, West Hartford, Connecticut. Six hours of graduate study in projective techniques.

Present Position

Guidance Chairman, Conard High School, West Hartford, Connecticut.

Previous Position

Director of Guidance, Valley Regional High School, Deep River, Connecticut
Manager of Training, Kaman Aircraft Corporation, Bloomfield, Connecticut
Industrial Relations Manager, Uarco, Inc., Deep River, Connecticut
Standards and Methods Engineer, Lycoming, Division of AVCO, Stratford, Connecticut
Instructor, Graduate School, Education, St. Bonaventure University, St. Bonaventure, New York
Coordinator and Head Counselor, Utica-Syracuse University Veterans Testing and Counseling Service, Utica, New York

Civic Organizations and Organizations

Former Member, Republican Town Committee, Stratford, Connecticut
Former Member, Chester, Connecticut and Deep River, Conn. Rotary Clubs
Director, Chester Fair Association, Chester, Connecticut
Former Member, Advisory Committee, Ward School of Electronics, University of Hartford, Hartford, Conn.

Former Member, Advisory Committee, Hartford State Technical College, Hartford, Connecticut

Professional Societies and Organizations

Member, American Psychological Association
Member, Phi Delta Kappa, Professional Education Fraternity
President, Western New York Guidance Association, Zone 5
President, Central Connecticut Industrial Training Association
President, Connecticut Personnel and Guidance Association, Hartford, Chapter
President, Graduate Student Organization, University of Sarasota
Member, Board of Directors, New England Association of College Admissions Counselors

Additional Related Experiences

Lectured on a part-time basis in Industrial Psychology at the University of Bridgeport, Bridgeport, Connecticut
Served as conference leader, Human Relations seminars for the Hartford Industrial Management Clubs
Presently, staff member at Central Connecticut State College, New Britain, as part-time instructor in Production Management

Certification and Eligibility

Guidance Counselor, State of Connecticut
Psychological Examiner, State of Connecticut
G. S. 11, Counseling Psychologist, U. S. Civil Service

Hobbies and Recreational Interests

Holder of amateur radio operator's license
Advanced Photography, Member, Photographic Society of America
Magician, Member, International Brotherhood of Magicians and the New London, Connecticut Magic Society
Golf, Music, Horticulture, and Cabinetmaking.